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of the

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Series V Volume XVII December 1995

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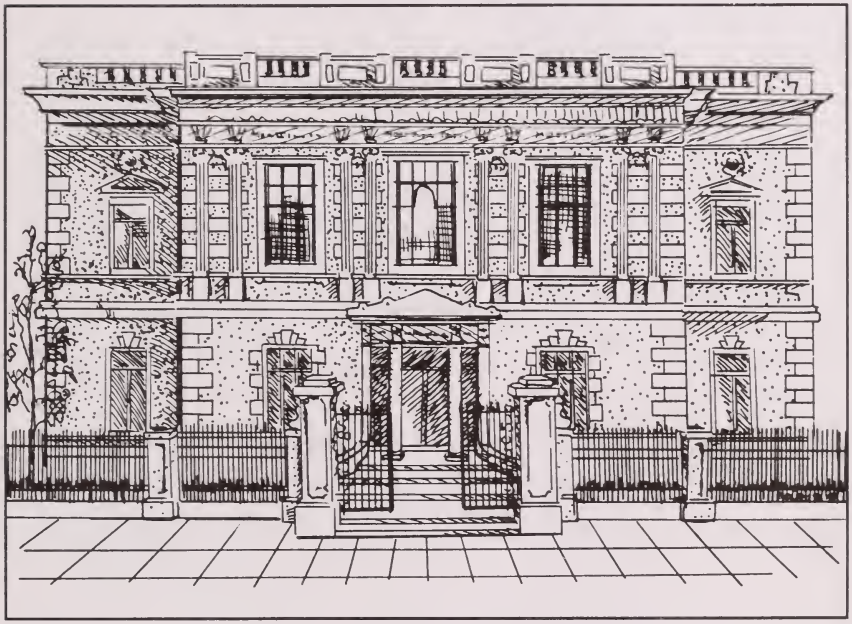

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TRANSACTIONS & STUDIES OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

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Editorial

This issue of *Transactions & Studies* opens with College President Frederick Murtagh's annual report to the Fellowship. In his annual report, Dr. Murtagh speaks of the dramatic changes and turbulence of the past fiscal year. Yet comforted by the institution's rich history, confident in the leadership skills of governance and management, and steadfastly optimistic about the College's future, Dr. Murtagh notes that the College "has known many turbulent years in the past" and "has always emerged the better for the experience, thanks to the vitality of the Fellowship and the spirit of the institution." Dr. Murtagh and the Fellowship have good reason to be optimistic, for the coming year will witness many positive changes, including the arrival of a new Executive Director, the opening of a Community Health Information Center, and a number of new programmatic initiatives.

While fiscal year 1995 was marked by tough budgetary decisions and dramatic change, it was also a year of many successes. The Fellowship can take pride in the fact that the College continued to offer programs of interest to the medical and scholarly communities. As the annual report of the History of Medicine Program and the articles that appear in this issue of *Transactions & Studies* affirm, the College of Physicians of Philadelphia, with its Library, Mütter Museum, and Francis Clark Wood Institute for the History of Medicine, continues to build upon its reputation as one of the country's leading centers for the history of medicine. Readers of this issue will note that the articles by Jeffrey Mullins, Jennifer Gunn, Gretchen Worden, David McCarter, Harold Langley, and Whitfield J. Bell were either based on research using the extensive historical resources of the College's Library and Mütter Museum or were papers presented at the Wood Institute's Seminar Series in the History of Medicine.

This issue concludes with remarks made by Dr. John McClenahan at a College ceremony for newly-elected Fellows held this past June. A Fellow of the College since 1958, Dr. McClenahan has served the College in many capacities, including Secretary and Editor of *Transactions & Studies*. In his address to the new Fellows, Dr. McClenahan shared his views on what it is that makes the College a special place. His opinions are personal and may not be shared by other Fellows. Undoubtedly, one will find among the Fellowship a diversity of views concerning the College's uniqueness. All would agree, however, that the

College is a special and unique institution. And that is part of the College's strength and vitality. Dr. Murtagh speaks of the College's vitality in his annual report: "The College's strength lies in its Fellowship, in its uniqueness as a freestanding academic institution, in its political neutrality, and in its dedication to the preservation of our heritage and the perpetuation of our noble profession and its relationship to society. I have never been more confident of the future of the College." The Fellows of the College have good reason to share Dr. Murtagh's optimism.

THOMAS A. HORROCKS

Report of the President of the College of Physicians of Philadelphia at the Annual Meeting of the Fellowship, 27 June 1995

Frederick Murtagh

This is my first opportunity to address the Fellowship as your President. It has been my privilege to be a Fellow of the College for the past forty years, but a singular honor to serve as your President and to join the roster of illustrious medical personalities who have occupied this office for the last two hundred years.

It has been stimulating and pleasurable to work with so many fine people: committee members, their chairmen, the Executive Committee, the Council, and the Board of Advisors, all otherwise very busy people, dedicated to the College and giving freely of their time and expertise. It has also been a great pleasure to work with the fine administrative staff of the College. I thank you all for your confidence and your support.

At first glance, one might consider this to be something of a turbulent year for the College, with major changes in the administrative personnel, leaky roofs, mold in the book stacks, falling ceilings in the foyer, fiscal problems resulting from a downsizing economy, and the budget crunch. The College has known many turbulent years in the past, but has always emerged the better for the experience, thanks to the vitality of the Fellowship and the spirit of this institution. Our current situation is generating many new, positive changes, and I have never felt more optimistic about the College and its current vitality, or more enthusiastic about the many new developments taking place in government, management, membership programs, and increasing relationships with outside related organizations. I am quite confident that we are in it for the long haul.

This year saw the resignation of our Executive Director, Dr. John O'Donnell. With his departure in April, Mr. Ben Pierce stepped in as Interim Executive Director. A search is being conducted for Dr. O'Donnell's replacement. Mr. Pierce is doing an outstanding job managing a smooth transition in the Executive Office.

As a preliminary to the search for a new Executive Director, an internal review committee looked carefully at our system of gover-

nance and management. The Austrian report of 1989 was reviewed, along with the Bylaws of the College of Physicians and the job description of the Executive Director, and the committee interviewed each of the members of senior staff individually. This committee concluded that our system of governance and management is a sound one which has worked well, and they recommended no changes. They did, however, recommend some minor changes in the wording of the Bylaws to clarify the relationship between the President and the Executive Director. These recommendations have been approved by the Executive Committee and by the Council, and are brought to the Fellowship today for final approval.

The search committee, chaired by Dr. Lewis Bluemle, has identified a number of highly-qualified candidates for the job that they are now interviewing and evaluating. It is hoped that a new Executive Director will be identified in the near future. This is a highly responsible committee, well acquainted with the College, sensitive to our past experiences, and deeply concerned with the future of the College. You can be sure that their selection will be a careful one.

We are fortunate to occupy this magnificent building built in 1909 at a cost of $350,000. It now has a market value of $12.5 million. In tribute to the artisans of the early twentieth century the building has required and received very little maintenance in its ninety-five year history, and like most of us, it is beginning to show its age. Recent repairs to the roof and the plaster ceilings in the foyer and in Thomson Hall have cost several hundred thousand dollars, and each day it seems that other failures in the structure and mechanical systems of the building are uncovered. This has caused us to take a second look at our original plan for a total renovation of the building, which had a projected cost of approximately $10-11 million, in favor of a modified renovation plan covering all major mechanical systems necessary just to bring the building up to code. The gross maximum cost for these renovations is estimated to be $4 or $5 million. The mounting of a capital campaign to cover these costs is in the planning stages, and will probably be initiated in the fall.

Our investment portfolio stands at about $8.5 million. Ably managed by a professional management company, we have been receiving competitive yields from these investments and, in spite of the market downturn earlier this year, have enjoyed substantial returns of unrealized capital gain.

Our operating budget is approximately $2.5 million per year, more than fifty percent of which is in salaries. Over the past three years, because of declining revenues, increased costs, and unexpected

expenses, the budget has each year shown an increasing deficit, in spite of responsible belt-tightening on the expense side. A preliminary analysis of the projected budget for 1996 uncovered an unacceptable potential shortfall of $250,000. It was obvious that drastic cuts on the cost side would have to be made to stop the bleeding and to slow down this progressive drain on our finances. It became necessary to restructure the administrative personnel by the very painful elimination of four major positions on the staff. This does not balance the budget, but brings the deficit down to the range of $40,000-$50,000 which is more realistic and manageable, and reflective of responsible financial management, with the prospect that we can cover this deficit by additional cost-cutting measures. Detailed descriptions of these budgetary changes are available in the executive office, should anyone wish to review them, and I am sure that Ben will be more than happy to accommodate you.

Currently there are 1,947 active Fellows in the College of Physicians. This is down from nearly 2,200 a few years ago, largely through attrition and a greater-than-usual number of resignations and forfeitures which have not been replaced by new inductees. This year, however, we have inducted thirty-eight new Fellows, leaving us with a net loss of eighty-two Fellows for just this year.

Nineteen hundred Fellows, or even 2,200 Fellows, is not enough, and is not representative of the College when you consider the high concentration of outstanding physicians and healthcare personnel within our cachement area who are eligible to be Fellows. Many of them have never been invited to join the Fellowship. There is a large number out there who are not acquainted with the College and who must be educated and made aware of the College and its place in the medical community. Every effort should be made to increase our Fellowship.

The Admissions Committee has inaugurated an Ambassador Program, wherein a Fellow is identified at each of our major medical institutions to act as an Ambassador for the College, to identify and sponsor for Fellowship eligible candidates among his or her colleagues. So far, eleven such ambassadors have been identified, and the program is now getting underway. On the other hand, we can all be ambassadors and continue to promote the College wherever we go.

To further increase our membership without compromising our high standards for Fellowship, a new category of membership has been inaugurated. Associate Membership in the College can be offered to those who do not hold medical doctoral degrees but who are engaged in productive activities that contribute to the under-

standing of medicine. This has been approved by the Executive Committee and our Council, and is brought to the Fellowship today for a vote.

Our highly successful new Sections are bringing more and more exciting new personalities with a variety of interests into affiliation with the College. Co-sponsorship programs with specialty societies and outreach relationships with health-related organizations all increase our exposure and add to the activities of the College.

Our programs are the heart of College activities. We can only be as good as the programs we offer, and this is the only way we can attract and hold the interest of the Fellowship. This is an area urgently in need of broad improvement. We held seven very successful College Night lectures this year, all well-attended and of interest. There were co-sponsored programs with the Philadelphia Healthcare Council and with Jefferson Medical College. Though not a program event, High Tea was blessed with good weather this year and was well attended. The occasion was highlighted by the presentation of the Distinguished Service Medal to Dr. Emily Mudd.

As recommended by the Program Committee's Retreat in 1993, our College lecture series alone is too frail a vehicle upon which to convey our mission or to attract the interest of the Fellowship and the medical community at large. It was recommended that our programming be expanded to include symposia, colloquia, and educational programs to capture and sustain the interest of the members of the College and the community. The Program Committee is hard at work addressing these issues and has already planned an impressive series of presentations and activities for the coming year. The most exciting new development is the emergence of our Sections. Public health and preventive medicine has always been a premier concern of the College. However, our efforts in this area have lagged considerably in recent years. The new Section on Public Health and Preventive Medicine has been highly successful. It has more than 100 very enthusiastic members, and has already put on some exciting, heavily-attended programs.

The Section on Arts Medicine has had its organizational meeting, and has attracted an impressive group from the arts, which promises to bring a fresh new look and a new theme of College interest.

The Section on Bioethics will hold its organizational meeting this afternoon. This will provide another exciting new theme for the College, with the prospect of attracting as many as 5,000 persons worldwide, and will provide a forum for the examination of critical issues facing the world of medicine today.

A highlight of the fall season will be an Open House reception on 15 September 1995, for Fellows, their families, and friends of the College, with tours of the building, exhibits demonstrating the various new activities and programs of the College, and informal presentations by members of the staff. It is hoped that you will attend to see firsthand how the College functions, the services available to our Fellowship, and more specifically, our new programs.

The Library has long been the crown jewel of the College. Many of us have sustained memories of the many hours spent there throughout our careers, searching out information which we knew could not be found in any other place. There are those who look upon the necessary modifications made in Library operations as downsizing, diminution, or even destruction of the Library as the premier institution of its kind. This is not so. The Library is very much alive and well and better than ever before. Any changes that have been made have been in response to advances in concepts of library operations and by economic necessity. It is neither possible nor practical for the College to purchase and keep every medical journal and textbook published. Contemporary monographs and journals relevant to the Library's mission are purchased each year. The book stacks are full, and with these extensive holdings plus its electronic relationship with the Health Sciences Library Consortium (HSLC), the Library's ability to retrieve information from almost any source is unlimited. The Library offers Fellows access to searching of MedLine and other medically-related databases free of charge. It also offers Internet access to Fellows through the College's membership in HSLC.

State funding has been renewed for the "Health Information Services for Pennsylvania Residents" program. The Connelly Foundation grant for the Community Health Information Center has been renewed for a second year, and the Center is expected to open in September.

The Historical Services Division of the Library is serving more researchers than ever before. Its Director, Thomas Horrocks, served as president of the Philadelphia Area Consortium of Special Collections Libraries (PACSCL) from September 1993 to October 1994. Great progress continues to be made in cataloging large backlogs of rare gerontology, homeopathic, and the medical trade ephemera collections as part of a two-year grant from The Pew Charitable Trusts to PACSCL, of which we are a founding member. The Samuel Lewis Circle continues to thrive, and now has a membership of twenty-two Fellows. Their efforts have helped the Library purchase a number of items of historical significance during the past year.

The Francis C. Wood Institute's programs also continue to thrive. Thanks to grants from the Measey Foundation and the Women's Committee of the College, there are eleven Resident Research Fellows this year, the largest number in the Institute's history. Our second Scholar-in-Residence, David Cantor, will complete his tenure in August 1995. The Institute has had another successful History of Medicine Seminar Series and has published another issue of *Transactions & Studies*. We would all like to see this publication appear quarterly. Both the Director, Thomas Horrocks, and the Assistant Director for Programs of the Institute, Dr. Monique Bourque, have presented scholarly papers at meetings of various professional organizations throughout the year.

The Mütter Museum continues to maintain a high level of visibility. Its now-famous calendar has become a collector's item, and has generated attention worldwide, resulting in write-ups in *Time* magazine, the *Wall Street Journal*, the *Scientist*, *U.S. Air Magazine*, and numerous other publications, which has kept its Director, Gretchen Worden, busy with local television appearances and lectures to various historical and civic organizations throughout the year. As a result, there were 17,000 visits to the Museum this year, an increase of almost fifty percent over previous years. Since they now all pay admission, this has generated about $25,000 in revenue.

The Thomas Dent Mütter Associates program, created to provide funds for conservation of Museum holdings, now has five associates as a result of its initial solicitation. The Museum is the recipient of two grants: one from the Institute of Museum Services and the other from the William Penn Foundation, and has mounted two special exhibits this year, one entitled "Body Doubles: Siamese Twins in Fact and Fiction," and "Radiology in Philadelphia: Shadows of the Past." Both were researched, designed, and installed by interns from Rutgers University at Camden.

The College of Physicians of Philadelphia is a vital organization, prepared to play a key role in the medical world of the twenty-first century. It must not be permitted to languish, lose its purpose, or lose the interests of its constituents and fade into history. The College's strength lies in its Fellowship, in its uniqueness as a free-standing academic institution, in its political neutrality, and in its dedication to the preservation of our heritage and the perpetuation of our noble profession and its relationship to society. I have never been more confident of the future of the College.

460 SABINE AVENUE
WYNNEWOOD, PA 19096

Annual Financial Report of the College of Physicians of Philadelphia: July 1994–June 1995

Benjamin R. Pierce

I. Commentary:

During Fiscal Year 1995 (ended June 30, 1995) the College recorded an operating deficit of $347,743 as reported in the audited financial statements assembled by MacDade Abbott and Co. (external College auditors). The financial data detailed below is excerpted from these statements.

This deficit is larger than the previous year due primarily to restructuring charges incurred during the spring. In regards to capital spending, the College replaced the roof to the Library stacks and addressed other pressing facility needs.

The College financial statements reflect the new SFAS standards pertaining to not-for profits.

II. Financial Data:

Operating Statement

Receipts	
Membership Dues	$364,689
Contributions and Grants	790,320
Facilities Rental and Parking Lot Lease	453,617
Endowment Proceeds	574,521
Services Provided	479,561
Total Receipts	$2,662,708
Expenditures	
Programs	$1,048,352
Plant	340,118
Benefits	345,411
Administration	1,276,570
Total Expenditures	$3,010,451
Net Surplus/(Deficit)	($347,743)

Balance Sheet (June 30, 1995)

Assets	
Cash	$326,174
Accounts Receivable	109,876
Notes Receivable	84,270
Investments	7,806,826
Other Assets	64,736
Fixed Assets	2,560,826
Total Assets	$10,952,708
Liabilities	
Accounts Payable	$283,704
Other Liabilities and Accruals	403,039
Total Liabilities	$686,743
Net Assets	
Unrestricted	$2,677,475
Temporarily Restricted	4,606,280
Permanently Restricted	2,982,210
Total Net Assets	$10,265,965
Total Liabilities and Net Sales	**$10,952,708**

College of Physicians of Philadelphia
19 South 22nd Street
Philadelphia, PA 19103

Annual Report of the History of Medicine Program: July 1994–June 1995

Thomas A. Horrocks

Introduction

Fiscal year 1995 was a productive one for the College's history of medicine program. The past year witnessed important staff changes in the Historical Services Division of the Library, with the hiring of a new Curator of Archives and Manuscripts and a new Reference Librarian. The Mütter Museum not only set another attendance record but received three grants in the areas of collections management assessment, conservation, and risk management. The Francis Clark Wood Institute for the History of Medicine sponsored another in a long line of successful seminar series, provided financial support to a record number of scholars who required the use of the College's historical resources, and produced a three-year program plan that involves not only the Institute but the Historical Services Division of the Library and the Mütter Museum as well. These achievements, as well as other notable accomplishments of the past twelve months, will be highlighted in the following report.

Historical Services Division of the Library

Reference Services

This past year the Historical Services' reference staff, consisting of Charles Greifenstein, Kevin Crawford, and John Parker, assisted 186 readers (there were 855 "reader days"), answered 189 reference letters and faxes, and responded to 346 phone inquiries. Last year the staff paged a record-number 6,158 items for readers. While the number of individuals who used the Library's historical collections declined slightly in 1994–1995, the time spent at the Library and the number of items consulted by researchers increased significantly.

There were more than 200 topics studied by researchers who consulted the Library's collections during 1994–95. The diversity of the topics reveals the extraordinary breadth of the Library's historical resources. Some of the subjects studied include the history of water-cure in nineteenth-century America; fever in nineteenth-century Ireland; German medieval texts on the Black Death; Civil War hospitals; lead poisoning in twentieth-century America; the 1832 cholera epidemic in France; patterns of alcohol consumption among women, 1870–1940; neo-Hippocratic medicine in early twentieth-century Britain; homeopathic women physicians in America during the nineteenth and twentieth centuries; medical jurisprudence of insanity in England, 1760–1843; the history of medical ethics; almanacs and medicine in early Massachusetts; American medical research on tuberculosis vaccines; S. Weir Mitchell and animal experimentation; the history of amputation; smallpox in Philadelphia, 1900–1910; the history of the hypodermic syringe; medicine and sectionalism in the antebellum South; eighteenth-century illness narratives; and medical publishing in Britain during the eighteenth century.

The bulk of the reference duties were performed by Charles Greifenstein, who began his employment with the College this past January. Mr. Greifenstein, who has a Master of Arts degree in literature from the University of Arizona, came to the College from the Cultural Heritage Research Services, Inc., where he was employed as research historian. Within days of his arrival at the College, Mr. Greifenstein was receiving plaudits from many satisfied researchers.

Archives and Manuscripts

During the past year the archive and manuscript collections were augmented by donation, transfer, purchase, and deposit. Fifty-eight items or collections were accessioned, and approximately 27 linear feet of material were added to the collections. Notable additions to the manuscript collection include six daybooks and account books of Jason Howard Ames (1796–1886), documenting his practice in Bradford, New Hampshire from 1824 to 1873; two volumes of lectures presented by Alexander Monro (1733–1817) at the medical school at the University of Edinburgh in 1786; a diary kept by Sophia E. Perry while she was a patient at the Maine Hospital for the Insane during the 1880s; correspondence and diaries (1880–1900) of Lucius F. Wood, who sold patent medicines in and around West Townsend, Massachusetts; and a small collection of personal papers of New York City physician Edward H. Dixon (1808–1880).

A pioneer in genito-urinary surgery and an inventor of several medical instruments, Dixon is best known as a satirist. Much of his writing was devoted to lampooning the medical profession. His chief medium of attack was the *Scalpel*, a quarterly journal which he edited from 1849 to 1864.

Other notable manuscripts acquired during the last year include two account books of William Wilson Rutherford (1805–1873), a Jefferson Medical College graduate who practiced medicine in Harrisburg from 1833 to the time of his death, and a minute book which documents the history of the Massachusetts Infant Asylum for the years 1887 to 1902. The Rutherford account books cover nine years of the Harrisburg physician's practice. One of the volumes concerns Rutherford's practice during the Civil War years, and it shows that he treated several Union officers during the Confederate Army's advance on Gettysburg and Harrisburg in 1863. The Massachusetts Infant Asylum's minute book acquired by the Library includes information on monthly meetings of the Board of Managers and special annual meetings. The minutes document election of board members, fund-raising initiatives, policy decisions, staffing issues, building concerns, and medical problems of the children in residence. The volume contains information about salaries, names of children admitted, management of health problems (the Infant Asylum employed physicians, several of whom were women, and professional nurses), as well as plans to design exhibits for several world fairs. The Massachusetts Infant Asylum pioneered the practice of boarding out infants to rural village homes, a program that the State of Massachusetts later copied.

In last year's report I mentioned that the College of Physicians was in the final stages of completing, with the American Association for the History of Medicine (AAHM), a deposit agreement concerning the latter's records, which have been housed in the College's Library since 1925. A formal agreement was finalized in August of 1994 and, as a result, the Director of the Historical Services Division of the Library was appointed the official archivist of the AAHM.

Jack Eckert, Curator of Archives and Manuscripts and Assistant Librarian for Historical Services resigned his position at the end of July 1994 to pursue a degree in library science. During his six years at the College (he was the institution's first Curator of Archives and Manuscripts), Mr. Eckert was responsible for establishing the Library's archives and manuscripts program, which is now recognized as one of the finest of its kind. As the result of Mr. Eckert's productive tenure at the College, the Library has obtained

intellectual control over a large portion of its archive and manuscript collections. His many friends at the College wish him the best of luck in all future endeavors.

Kevin Crawford transferred from his position as Reference Librarian to that of Curator of Archives and Manuscripts in December 1994. Since he assumed these duties, Mr. Crawford has fashioned a policy statement concerning public access to sensitive records held by the Library, and has begun planning for the purchase and installation of new RLIN equipment.

Imprints

In 1994–95, the Historical Services Division of the Library continued to add to its ever-growing popular medicine collection. Titles added during the past year include Luigi Cornaro's *Discourses on a Sober and Temperate Life* (Philadelphia, 1791); Mason Locke Weems' *The Immortal Mentor: Man's Unerring Guide to a Healthy, Wealthy, and Happy Life* (Philadelphia, 1796); the 1816 New York edition of *Aristotle's Master-Piece*; Charles Miles' *A New and Improved System of Medical Botanical Practice* (Cleaveland (sic), 1829); Richard Church's lecture on the *Presumptive Evidence of the Truth and Reasonableness of Phrenology* (Chichester, 1833); an anonymously-authored *The Families' New Guide to Health, Giving a Description of the Diseases to Which Families are Subject, and Their Treatment . . . Together With an Exposition of the Thomsonian Preparations of Medicine* (Baltimore, 1833); Hewitt C. Watson's *Statistics of Phrenology, Being a Sketch of the Progress and Present State of that Science in the British Islands* (London, 1836); H. L. Holbrook's *Hygiene of the Brain and Nerves and the Cure of Nervousness* (New York, 1879); R. L. McElree's *Home Treatment of Female Diseases* (Chattanooga, 1894), which was a gift from Fellow Charles Rosenberg; Luther H. Porter's *Cycling for Health and Pleasure* (New York, 1895); and Samuel Sheldon Fitch's *A Treatise on Health, its Aids and Hindrances: Containing an Exposition of the Causes and Cure of Disease, and the Laws of Life* (New York, 1857). Fitch claimed that he was the founder of a system of medicine "by which phthisis is found to be curable by medical art."

In addition to popular medicine works, the Historical Services Division added a number of titles to its extensive early American medical imprint collection, including the Reverend William Walter's *A Discourse Delivered Before the Humane Society of the Commonwealth of Massachusetts* (Boston, 1798); *Documents Relating to the*

Board of Health (New York, 1806); and Peter Miller's *An Essay on the Means of Lessening the Pains of Parturition* (Philadelphia, 1804). The last-mentioned work was part of the personal library of the late J. Robert Willson (1912–1993), who was instrumental in establishing the obstetrics and gynecology department at Temple University's School of Medicine. Last year, Mrs. Robert Willson donated 18 titles from Dr. Willson's rare book collection to the College. As a result of this generous gift, the Library has been able to fill in some of the gaps in its obstetrics and gynecology collection, which is considered one of the finest in the country. Rare titles received from Mrs. Willson include Daniel Winckler's *Animadversiones in tractatum, qui inscribitur: Dissertatio de vita foetus in utero* (Jena, 1630); the 1729 Leiden edition of William Mauquest de La Motte's *Traite des accouchemens naturels, non naturels, et contre nature*; Johann Georg Roederer's *Elementa artis obstetriciae* (Gottingen, 1766); Marie-Louise Dugès Lachapelle's personal copy of her *Practique des accouchemens* (Paris, 1821); and John Eiselt's *Historia rupturae uteri* (Prague, 1829), which bears the bookplate of Howard Atwood Kelly (1858–1943), who was a leading figure in American surgery and obstetrics.

The College's participation in the Philadelphia Area Consortium of Special Collections Libraries (PACSCL) has enabled the Library to address a large backlog of uncataloged materials. In March 1994, PACSCL received a two-year $1.35 million cataloging grant from The Pew Charitable Trusts. The College's share of the grant, $103,297, is being used to continue the Library's assault on uncataloged collections of books, pamphlets, and printed ephemera. During 1994–95 Ann Dougherty, Curator of Printed Books, completed the cataloging of the Joseph T. Freeman Gerontology Collection (more than 500 titles) and cataloged 643 titles from the Library's extensive collection of pamphlets on homeopathy. Working with Ms. Dougherty on the cataloging project is John Parker, who is organizing and cataloging the Library's rich medical trade ephemera collection. Mr. Parker entered 603 cataloging records (containing 3,886 items) into the RLIN database last year.

Exhibits

The College of Physicians was pleased to participate in the Grolier Club's major exhibit on "One Hundred Books Famous in Medicine," which was held at the Club's New York City residence from 21 September through 23 November 1994. The Library was well

represented in the show, lending seven of its rare treasures to the Grolier Club's "100." Visitors to the exhibit viewed the Library's copies of Celsus' *De medicina* (Florence, 1478); Guy de Chauliac's *Chirurgia* (Venice, 1480); Eucharius Rosslin's *Der swangern Frauwen und Hebammen Rosegarten* (Strassburg, 1513); Hans von Gersdorff's *Feldtbuch der Wundtartzney* (Strassburg, 1517); William Harvey's *De motu cordis* (Frankfurt, 1628); Giovanni Morgagni's *De sedibus, et causis morborum* (Venice, 1761); and one of the original sketches of plate number III, drawn in ink, pencil, and chalk on paper from Gaspare Aselli's *De lactibus* (Milan, 1627). Also on display at the exhibit was the College's John Singer Sargent portrait of Sir William Osler.

The Library of the College of Physicians owns one of the largest collections of medical trade ephemera in the United States. For years unprocessed and thus inaccessible to researchers, the collection is now being cataloged as part of the Library's PACSCL grant project. The medical trade ephemera collection, comprised of materials dating from about 1850 to the middle of this century, was showcased during the last year when the Library mounted a major exhibit in the College's lobby on "'A Luxury for the Healthy, A Necessity for the Sick': Drugs and Devices in Medical Trade Ephemera." The exhibit, which included a selection of the Library's many trade catalogs and advertisements, was curated by John Parker and Ann Dougherty.

The staff of the College of Physicians has been working closely with representatives of the Strong Museum in Rochester, New York, and the Cleveland Health Museum on a collaborative exhibit entitled "Say Ahh! Examining America's Health," which will open in Rochester in October 1995. Library staff have provided assistance with research, and a number of images from the Library and artifacts from the Mütter Museum will be used in the exhibit. The exhibit is scheduled to open at the College in June 1996.

Samuel Lewis Circle

Founded in 1991, the Samuel Lewis Circle is a support group comprised of Fellows and friends of the College who are dedicated to enhancing the Library's renowned historical collections. Samuel Lewis Circle members, through their annual contributions of $1,000 or more, provide funds to support the acquisition of books and manuscripts that lie beyond the Library's normal budgetary means.

On 15 March 1994, the College hosted the third annual Samuel Lewis Circle dinner. The elegant affair was preceded by a reception

during which members and guests viewed an exhibit of rare books, manuscripts, and broadsides purchased with funds provided by Circle members. The Samuel Lewis Circle has grown steadily since its founding and currently has 23 members.

This past year the College welcomed new members Drs. Alfred P. Fishman, Zachary B. Freidenberg, and Charles T. Lee, Jr. to the Samuel Lewis Circle. In addition to Drs. Fishman, Friedenberg, and Lee, members of the Samuel Lewis Circle are Stanley Baum, M.D.; Whitfield J. Bell, Jr., Ph.D.; David Y. Cooper, M.D.; Richard A. Davis, M.D.; Eugene S. Flamm, M.D.; Richard W. Foster; Claire G. Fox, Ph.D.; Eleanora C. Gordon, M.D.; William H. Helfand, D.Hu.L.; Dorothy I. Lansing, M.D.; Luigi Mastroianni, Jr., M.D.; Frederick Murtagh, M.D.; Jane M. Oppenheimer, Ph.D.; W. Robert Penman, M.D.; Jonathan E. Rhoads, M.D.; Fred B. Rogers, M.D.; Henry H. Sherk, M.D.; and Neale W. Watson. Dr. Bell assumed the chairmanship of the Lewis Circle this past March, succeeding Dr. Penman.

Staff

Kevin Crawford, Curator of Archives and Manuscripts, attended a Society of American Archivists-sponsored two-day seminar on Photographic Collection Management, which was held in Philadelphia this past May in conjunction with the annual meeting of the American Association of Museums. Mr. Crawford also attended a workshop on Cataloging Archival Collections (sponsored by Palinet) and an advanced Internet course (sponsored by the Health Sciences Libraries Consortium), and completed two archives courses and an internship at Temple University. In addition to these activities, Mr. Crawford assisted with the mounting of the annual Samuel Lewis Circle exhibit, researched and prepared a small exhibit on the life and career of Dr. George Nicolas Papanicolaou, completed a rare book shelf-reading project, wrote an article on the Library's collection of rare Russian imprints for the *Ukrainian Historical and Medical Journal* (published by the Central Museum of Medicine of Ukraine), and devised a long-range computer needs assessment study for the Division.

In addition to her cataloging duties, Ann Dougherty, Curator of Printed Books, was active in PACSCL's Rare Book Discussion Group, and attended PACSCL's 1994 summer seminar on cataloging ephemera. John Parker, Project Cataloger and Reference Assistant, wrote an article on the Library's medical trade ephemera collection, which was published in the Spring 1994 issue of the His-

torical Services Division's newsletter *Fugitive Leaves*, and attended PACSCL's summer seminar on ephemera. Charles Greifenstein attended the Mid-Atlantic Regional Archives Conference's spring meeting in Baltimore, completed an archives course at Temple University, and was involved with the preparation of the annual Samuel Lewis Circle exhibit. Mrs. Joanna Gable, the Historical Services Division's volunteer, performed a number of tasks with good cheer and enthusiasm. We are grateful to Mrs. Gable for her valuable contributions to Library operations.

The Director served as president of PACSCL from September 1993 to October 1994, and continues to serve the Consortium as a member of its Development Committee. During the last year he was appointed archivist of the AAHM and served on the Society of American Archivists' Section on Appraisal and Acquisitions, the Archivists and Librarians in the History of Health Sciences' Holloway Award Committee, the Board of Directors of the Friends of the Historic Collections of the Pennsylvania Hospital, and the editorial board of Gryphon Editions' *Classics of Obstetrics and Gynecology Library*. The Director's other activities during the last year are mentioned in the annual report of the Francis C. Wood Institute.

Mütter Museum

The Museum's attendance record set in 1993–94 was surpassed in 1994–95, and this occurred despite the fact that the College initiated the first admission charge in the Museum's history. The Museum continued to attract favorable media attention as a result of its special exhibits, outreach programs, and its popular calendar. Furthermore, 1994–95 was very productive in terms of successful grant applications.

Visitors and Tours

A new Museum attendance record was set in 1994–95. Museum attendance last year reached 18,470 (compared with 16,479 in 1993–94 and 12,895 in 1992–93). As the result of the new admission charge, income realized from attendance was $28,563, compared to $10,464 the previous year (when voluntary donations were requested). The eleven Mütter Museum guides, all volunteers from the College's Women's Committee, conducted 72 group tours, approximately 28 percent of the total number of tours. Two new

guides have been added since last year, and all were trained and scheduled by head guide Mrs. Robert Booth.

The Museum received many requests for personal tours by the Museum's Director Gretchen Worden, often after hours or on weekends. This past year the Museum hosted a special tour for criminology students from Goucher College and Towson State College, who combined their Saturday visit with a tour of Eastern State Penitentiary. The Director also conducted special tours for attendees of the American Library Association's Midwinter Conference, the Bunker Family Association of America, the Philadelphia branch of the American Association of University Women, students from the Cooperstown Graduate Program in History Museum Studies, an embryology class from Swarthmore College, the American Association of Veterinary Anatomists, and the Council for Museum Anthropology.

Public Awareness and Promotion

The Museum's rise in attendance is in part a result of the significant media attention that the Museum received during the past year. In 1994–95, articles featuring or including the Museum appeared in Toronto's *Medical Post*, the *Philadelphia Weekly* (formerly the *Welcomat*), the *Philadelphia Daily News*, and the *Philadelphia Inquirer*. Three articles appeared in the *Delaware County Times*—one on the Museum, one on the Director, and one on the 1863 murder of Ellen Jones in Media, whose skull resides in the museum. William Hoffman's recently published travel guide to *Unique and Unusual Places in the Mid-Atlantic Region* chose the Mütter Museum as one of nine Philadelphia attractions worthy of inclusion. We are pleased to report that the Museum won the *Philadelphia City Paper*'s 1994 Readers Choice Award as the Most Underrated Tourist Attraction, and was also selected by *Weismann Travel Reports* (a service for travel agents) as the top one-of-a-kind museum in the world.

The Philadelphia Convention and Visitors Bureau continued to promote the Museum to travel writers and tour operators, resulting in its being mentioned in newspapers from Fort Myers, Florida, to the *Baltimore Sun* to the *New Hampshire Sunday News*. The Museum was also included in a *USAir* magazine's travel piece on Philadelphia and in an article on interesting local museums which appeared in *Philadelphia Magazine*.

The most important publicity, in terms of its effect on visitation and calendar sales, was *Time* magazine's November 1994 feature article on the Museum. This international exposure generated nu-

merous requests for radio and television interviews involving the Director and expanded media coverage of the Museum. The Director, for example, was interviewed on radio stations in Seattle, Binghamton, Grand Rapids, Cleveland, Toledo, Poughkeepsie, Minneapolis, Oceanside (California), and Guam.

A major exhibit of the 1994 Mütter Museum Calendar photographs and artifacts at the Museum of Jurassic Technology in Los Angeles, from April through August 1994, generated additional public and media awareness on the West Coast, a major market for the Museum's calendar. A feature article on the calendar in the July 1994 issue of *World Art* focused on the intersection of the Museum and the personal vision of the calendar photographers with the growing public interest in the "New Grotesque," as a reaffirmation of the reality and normalcy of death and disease. In *The Sciences*, published by the New York Academy of Science, Stephen Jay Gould commented on an image from the 1994 calendar, that of the Hyrtl skulls superimposed on an eighteenth-century anatomical drawing of the uterus.

The 1995 Mütter Museum Calendar, printed by The Stinehour Press, differed from those of previous years in that it contained colored illustrations (six full-color photographs and seven duotones). The calendar was entered for the first time in the American Association of Museums' Publication Design competition, and received the highest award in the calendar category for small museums. This was a significant tribute to the talents of calendar coordinator Laura Lindgren, a freelance New York editor and publisher who created the Mütter Museum Calendar and who continues her involvement with its design, production, and marketing.

Special Exhibits and Programs

Two special exhibits were mounted in the Museum this past spring, thanks to the efforts of Laura Beardsley and Joseph-James Ahern, student interns from Rutgers University. To fulfill the requirements of a course on "Museums in Historical Perspective," Ms. Beardsley and Mr. Ahern were responsible for the research, design, and installation of exhibits on conjoined twins and the history of radiology.

Ms. Beardsley's exhibit on "Body Doubles: Siamese Twins in Fact and Fiction," which opened this past May, contains materials from the Museum's and Library's extensive holdings in this area. The exhibit shows the biological facts behind conjoined twins, cur-

rent efforts to separate conjoined twins, and famous conjoined twins, including Chang and Eng Bunker. The exhibit also addresses the continual popular fascination with conjoined twins, as reflected in the Museum's vast collection of two-headed toys, cartoons, and tabloid articles. Ms. Beardsley returned to the Museum this summer for another internship, during which time she will catalog and rehouse historic photographs and prepare an exhibit on Louis Pasteur, which will open this coming fall.

Mr. Ahern mounted an exhibit on "Radiology in Philadelphia: Shadows of the Past," which contained artifacts from the Museum and images from the Library. The exhibit was prepared to commemorate the centennial of the discovery of the X-ray, and the contributions of Philadelphia physicians to the development of the field of radiology. The Philadelphia Roentgen Ray Society, which holds its meetings at the College of Physicians, received special recognition. The exhibit opened on 1 April 1995 to coincide with the Society's annual dinner saluting the discovery of the X-ray.

Last year the Museum loaned several artifacts to the University of Pennsylvania for exhibits on the William Pepper Laboratory and on student life. The Museum also loaned a microscope and a replica of a Laennec stethoscope to the City of Philadelphia for the "Art in City Hall" program entitled "Specimens." Several patent medicines were loaned to the Philadelphia College of Pharmacy and Science for its new museum exhibit. Forty artifacts and instruments are currently on loan to the Strong Museum for "Say Ahh! Examining America's Health," the upcoming collaborative exhibit with the Strong Museum and the Cleveland Health Museum, which is scheduled to open in Rochester in October 1995.

Thomas Dent Mütter Associates

Named in honor of Thomas Dent Mütter (1811–1859), professor of surgery at Jefferson Medical College and founder of the College's Mütter Museum, the Thomas Dent Mütter Associates is a support group comprised of Fellows and friends of the College who are committed to preserving the Museum's renowned collections. Members contribute $1,000 or more annually to the program, which was founded in 1994. Current members of the Mütter Associates are John M. Templeton, Jr., M.D. (Chairman); Robert H. Bradley, Jr., M.D.; Lewis L. Coriell, M.D., Ph.D.; Charles T. Lee, Jr., M.D.; Ms. Laura Lindgren; and J. Robert Schietinger.

Reference and Public Service

The Museum staff responded to approximately 450 inquiries for information, photographs, and use of Museum objects and collections. This is a significant increase from the previous year, when the staff responded to 300 such requests.

Special research projects which used the Museum's collections include a request from a staff member at the Oak Ridge National Laboratory for photographs of the two cretin skulls—apparently they are the only authenticated cranial examples of the disease located in the United States—in the Hyrtl Skull Collection; an anthropologist from UCLA who wanted X-rays and measurements of the arm and leg bones of the Mütter giant and dwarf skeletons as part of a study in comparative cortical bone thickness in fossil hominids; and two anthropologists from the Smithsonian who, in preparation for a trip to war-torn Croatia to train personnel in identifying remains found in mass graves, studied Serb and Croat skulls in the Hyrtl collection.

Collections Management/Conservation

The Museum continued in 1994–95 to fulfill its role as a leading repository of artifacts documenting the practice of medicine. During the past year the Museum received 716 objects from 16 donors. Recent acquisitions include 5 crates of wet specimens from Temple University's Department of Pathology, donated by Alexander Zwil, D.O.; two skeletons prepared for osteopathic instruction by the Halliday method from Halbert Fillinger, M.D.; a normal human skull, contributed by Frederick Murtagh, M.D.; a plaster cast of Dr. W. W. Keen's hand from his descendants; and a collection of lantern slides and framed prints, donated by Truman G. Schnabel, Jr., M.D.

It was a very successful year for the Museum in terms of conservation grants. The Museum received a grant from the Conservation Center for Art and Historic Artifacts (CCAHA) (as part of a program supported by The William Penn Foundation) to assess the preservation needs of the fluid-preserved specimen collection. The assessment included a preliminary visit from a CCAHA staff member and a day-long consultation with a professional conservator. A physical examination and chemical analysis of a representative portion of the collection by a conservation intern from Winterthur began in June of this year. The physical examination and chemical analysis will determine the complete conservation needs of the wet specimen collection.

The grant funds, matched by funds contributed by the Thomas Dent Mütter Associates, provided for the purchase of laboratory equipment and supplies, as well as for the services of the professional conservator, the intern, and an adjunct curator, who will assist the Director with the selection of specimens. As part of the Assessment Project, a fume hood will be installed in the Museum's conservation laboratory. The purchase and installation of the fume hood will be funded by the Groff Family Memorial Trust.

The Museum also received a MAP II grant from Institute for Museum Services, which will enable the Museum to hire a consultant to assess collection management procedures, including documentation, registration, and acquisition and de-accessioning. The Museum's 1994–95 success with the MAP II and CCAHA grant applications is due largely to the indefatigable efforts of Collections Manager Lynn Brocklebank and Monique Bourque, Assistant Director for Programs in the Francis Clark Wood Institute, who were responsible for the research and writing of the applications.

It should also be noted here that the College of Physicians has been selected to participate in the CCAHA's Disaster Preparedness and Response Program, which is funded by the William Penn Foundation. The goal of the program is to complete a disaster preparedness and response plan tailored to the needs of the College. The CCAHA will assist the College with the development and completion of this plan. Ms. Brocklebank, who, along with Dr. Bourque, prepared the successful application to the program, will act as the Disaster Planning Coordinator.

Staff

Gretchen Worden, Director of the Mütter Museum and Associate Director of the Wood Institute, continued her involvement with various professional associations. She served as vice president of the Walt Whitman Association, and as a member of the governing boards of the European Association of Museums of the History of the Medical Sciences, the National Museum of Civil War Medicine, the Medical Museums Association, and the Friends of Independence National Historical Park. Ms. Worden also served on the editorial board of *Caduceus*, a museum quarterly for the health sciences, and as secretary for the Eastern State Penitentiary Task Force. During the past year Ms. Worden attended the annual meetings of all these groups as well as those of the American Association of the History of Medicine and the American Association of Museums.

Ms. Worden presented several lectures last year, including "Surgical Instruments in the Cival War" at the second Annual Conference on Civil War Medicine; "Transvestite Women Physicians" at a meeting of the Burlington County (New Jersey) Medical Society; "New Thoughts From Old Museums: What the Nineteenth-Century Museum Had to Teach" at the annual meeting of the American Association of Museums; and "Is it the Body of John Wilkes Booth?" at the Union League of Philadelphia. She also presented a lecture at the College of Physicians on "Of Science and Humanity: Treasures of the Mütter Museum." Her article "Is it the Body of John Wilkes Booth?" was published in the 1994 issue of *Transactions & Studies.*

Lynn Brocklebank, Collections Manager, continued to serve as secretary for the Conservator/Collection Care Network, and as editor of the newsletter of the Philadelphia branch of the American Association of University Women. Her role in the preparation of successful grant applications for wet-specimen conservation, collections management assessment, and risk management have been noted above. Rachel Koler was promoted from Receptionist to Receptionist/Administrative Assistant. The promotion was in recognition of additional responsibilities which she assumed in 1994–95. Besides managing the financial records of the Museum as well as its other clerical duties, Ms. Koler scheduled 257 group tours and handled all aspects of calendar sales.

Francis Clark Wood Institute for the History of Medicine

The Francis Clark Wood Institute for the History of Medicine was established in 1976 to make better known to the scholarly community the rich resources of the College's Library and Mütter Museum and to encourage the study of developments in health care using these resources. The Institute, one of the leading programs of its kind in the United States, accomplishes this mission through its various programs. A review of the programs offered in 1994–95 are reviewed in this report.

Fellowship Programs

Resident Research Fellowships: The Wood Institute offers short-term resident research grants to scholars engaged in projects requiring per-

sonal use of the collections of the Library's Historical Services Division and/or Mütter Museum. These fellowships are awarded for the spring, summer, and fall of each year. Resident Research Fellows and their topics for 1994 were Paul E. Berman, M.D. (University of Massachusetts Medical School), "The Medical Mutual Improvement Society in America, 1720–1835"; Deborah Franklin (M.D./Ph.D. Candidate, University of Pennsylvania), "Controlling the Atom: The Impact of Ionizing Radiation on Human Health, 1895–1942"; Jennifer L. Gunn (Ph.D. Candidate, University of Pennsylvania), "Controlling the Population: Ideological Links among Contraception, Life Extension, Public Health, and Population Policy"; Lisa Herschbach (Ph.D. Candidate, Harvard University), "The Hidden Civil War: Medical and Literary Narratives from the Turner's Lane Hospital"; David McCarter (Ph.D. Candidate, University of Iowa), "Medical Ideas and the Popular Press in New England, 1680–1820"; Jeffrey A. Mullins (Ph.D. Candidate, Johns Hopkins University), "The Moral Mind: Agency, Psychology, and the Mind-Body Connection in American Thought, 1790–1860;" and Allison Pingree, Ph.D. (Harvard University), "'It's Two that Makes the Trouble': Figures of Replication in the Fiction of Mark Twain, Sherwood Anderson, Eudora Welty, and Carson McCullers." Each Fellow is required to submit a report on his or her research at the College. The reports of the 1994 Fellows are presented in the Appendix. Three of the 1994 Resident Research Fellowships—those of Dr. Berman, Ms. Gunn, and Ms. Franklin—were supported by a generous contribution from the Women's Committee of the College of Physicians. The Women's Committee's continued support of this important program is gratefully received and warmly appreciated.

As this report is being prepared, eleven 1995 Fellows (the highest number of Fellows in the Institute's history) are beginning their tenures. They are Adrienne Berney (Ph.D Candidate, University of Delaware), "Breast-Feeding Attitudes and Alternatives, 1870–1940"; Sarah Blank Dine (Independent Scholar), "Doctors, Patients, and Inoculation"; Trudy Eden (Ph.D. Candidate, Johns Hopkins University), "Regimen: An Economy of Health in the Colonial Chesapeake"; Ernelle Fife, Ph.D. (Georgia State University), "Gender Difference in Eighteenth-Century Illness Narratives"; Anne Taylor Kirschmann (Ph.D. Candidate, University of Rochester), "Women Homeopathic Physicians in the United States, 1850–1920"; Peter Mancall, Ph.D. (University of Kansas), "'Rum is Like a Women': American Indian Beliefs about Alcohol Addiction"; Lynda Payne-Bury (Doctoral Candidate, University of California, Davis), "'To Lose Foolish Tenderness': William Harvey and the Development of

Clinical Detachment in Early Modern England"; Stephen Robertson (Ph.D. Candidate, Rutgers University), "Signs, Marks, and Private Parts: The Medical Jurisprudence of Rape in the United States, 1823–1940"; Patricia A. Rosales (Ph.D. Candidate, Harvard University), "A History of the Hypodermic Syringe in the United States"; Jean Silver-Isenstadt (Ph.D. Candidate, University of Pennsylvania), "'Progression in Harmony': The Shared Life and Work of Mary Gove Nichols and Thomas Low Nichols in Nineteenth-Century Health Reform"; and Rosemarie Garland Thomson, Ph.D. (Howard University), "Freakmaking: Constituting Corporeal and Cultural Others." The 1995 Resident Research Fellows program is generously supported by the Benjamin and Mary Siddons Measey Foundation and the Women's Committee of the College of Physicians.

Scholar-in-Residence Program: In September 1994, the Institute welcomed David Cantor as its second Scholar-in-Residence. Dr. Cantor, formerly a Research Fellow in the Department of Science, Medicine, and Technology at Johns Hopkins University, will conclude his year-long tenure at the end of August 1995. During his residence at the College, Dr. Cantor has written a major portion of a forthcoming book on neo-Hippocratic medicine in inter-war Britain and participated in several professional meetings and seminars, including a seminar on "Hippocratism and Holism in Inter-War British Medicine" at the Wood Institute. When Dr. Cantor completes his fellowship at the College, he will take up a faculty position at the University of Sheffield-Hallam.

The Institute's Scholar-in-Residence for 1995–96 will be Sarah W. Tracy, who is currently a Fellow at the Institute for Health, Health Care Policy, and Aging Research at Rutgers University. Dr. Tracy, who received her Ph.D. in the history and sociology of science from the University of Pennsylvania, will spend her year at the College completing the research and writing of her book on the medicalization of alcoholism in America from 1870 to 1920.

We wish to thank William L. Kissick, M.D.; Russell C. Maulitz, M.D., Ph.D.; Clark T. Sawin, M.D.; and David Cantor, Ph.D. for serving on the 1995–96 Scholar-in-Residence Selection Committee. The Institute's Director, Associate Director, and Assistant Director for Programs also served on the Committee.

Seminar Series in the History of Medicine

In 1994–95, the Wood Institute completed its twelfth Seminar Series in the History of Medicine. A highly regarded fixture in Philadelphia's

scholarly community, the lunchtime seminar series offers scholars from various disciplines—history of medicine, art history, literary history, gender studies, sociology, and medicine, for example—a chance to share their latest research with their colleagues and the general public.

The fall 1994 seminar series, which ran from 20 October through the second week in December, included Claude-Anne Lopez (Consulting Editor, Papers of Benjamin Franklin), "Franklin and Mesmer: An Encounter"; Steven C. Martin, M.D. (Albert Einstein College of Medicine), "From Quacks to Colleagues? Medical Ethics, Alternative Medicine, and Professionalism"; Harold D. Langley, Ph.D. (Smithsonian Institution), "Early Naval Medicine in Philadelphia, 1815–1840"; Elizabeth Toon (Ph.D. Candidate, University of Pennsylvania), "'A Saving in Human Lives': Public Health Education and the Metropolitan Life Insurance Company"; David McCarter (Ph.D. Candidate, University of Iowa), "Dr. Ames Orders His Profession"; Lisa Rosner, Ph.D. (Richard Stockton College of New Jersey), "'Picturesque and Overwhelming Sublime': The Diary of an Army Surgeon During the Peninsular War, 1809–1814"; and Mike Sappol (Ph.D. Candidate, Columbia University), "'The Foul Altar of a Dissecting Table': Sex, Anatomical Dissection, and Medical Authority in Nineteenth-Century American Fiction."

The spring 1995 seminar series, which began on 9 February and ended on 27 April, included Deborah Franklin (Ph.D., M.D. Candidate, University of Pennsylvania), "The Benefits and the Dangers: The First Twenty Years of Diagnostic X-Ray Technology in Philadelphia, 1895–1915"; Barron Lerner, M.D. (Columbia University), "Do Stressful Events Cause Tuberculosis? Revisiting the Research of Thomas Holmes, 1950–1965"; Robert Blair St. George, Ph.D. (University of Pennsylvania), "Speech and Space in Early America"; Leonard Warren, M.D., Ph.D. (The Wistar Institute/University of Pennsylvania), "Joseph Leidy in Nineteenth-Century Philadelphia"; Anne-Marie Rafferty, Ph.D. (Harkness Fellow, University of Pennsylvania), "'Sentimental Education' or, Why an Intellectual History of Nursing Has Not Been Written"; Katherine Ott, Ph.D. (Smithsonian Institution), "Looking at Looking: Ophthalmology in Nineteenth-Century America"; Allison Pingree, Ph.D. (Harvard University); "'America's United Siamese Brothers': Chang and Eng and Nineteenth-Century Ideologies of Democracy and Domesticity"; Carolyn M. Goldstein, Ph.D. (National Building Museum), "Home Economics Education and the Construction of the Ideal Rational Consumer: The Case of Health and Nutrition in the Early Twentieth Century"; Jennifer Gunn (Ph.D. Candidate, University of Pennsylvania), "Doctors as Public

Citizens: From Birth Registration to *The Bell Curve*"; David Cantor, Ph.D. (College of Physicians of Philadelphia), "Hippocrates and Holism in Inter-War British Medicine"; and Jeffrey A. Mullins (Ph.D. Candidate, Johns Hopkins University), "Saving the Body, Saving the Soul: Medical Theory, Physiology, and the Discourse of Morality in America, 1790–1860."

The 1994–95 Seminar Series in the History of Medicine was funded by a grant from the Benjamin and Mary Siddons Measey Foundation. We are grateful to the Measey Foundation for their continued support of this program.

Staff

Monique Bourque, Assistant Director for Programs, had a busy and rewarding year. In addition to her regular duties, Dr. Bourque taught a course on the history of American medicine for the Wagner Free Institute of Science of Philadelphia, attended meetings of the AAHM, the History of Science Society, and the American Association of Museums, and participated in several Philadelphia Center for Early American Studies' seminars. Dr. Bourque, who received her Ph.D. from the University of Delaware this past May, delivered a paper on "The Assessment of Virtue and the 'Habit of Industry': Gender and Labor in the Poorhouse" at the conference "A Variety of Tasks: Men, Women, and Work in Early Nineteenth-Century America," held at the Hagley Museum and Library in March 1994. Her invaluable assistance with the three successful Mütter Museum grant applications has already been mentioned.

The Director chaired a session on "The Medical Doctor in History and Fiction" at the annual meeting of the East-Central American Society for Eighteenth-Century Studies and had two articles published during 1994–95. His "'The Poor Man's Riches, The Rich Man's Bliss': Regimen, Reform, and the *Journal of Health*, 1829–1833" was published in the June 1995 issue of the *Proceedings of the American Philosophical Society*, and his "William Osler, William Gowers, and Medical Phonography" appears in the recently published *The Persisting Osler II* (Krieger Publishing, 1994). He attended the annual meetings of the AAHM, ALHHS, and the Society for the History of Authorship, Reading, and Publishing. In June, the Director was appointed chair of the AAHM's Committee for Continuing Lifetime Achievement Award.

During 1994–95 the Director, together with the Associate Director, the Assistant Director for Programs, and the Director of the

Katherine A. Shaw Public Services Division of the Library, has been working closely with representatives of the Strong Museum in Rochester, New York, and the Health Museum in Cleveland, Ohio, in planning a collaborative traveling exhibit and attendant programming entitled "Say Ahh! Examining America's Health," which will open in Rochester in October 1995. The exhibit will travel to Philadelphia in June 1996 and is scheduled to open at the College early that month.

In concluding this report on the College's history of medicine program, the Director wishes to thank the staffs of the Historical Services Division of the Library, the Mütter Museum, and the Wood Institute for their many contributions during the last year. The Director is indebted especially to Kevin Crawford, Gretchen Worden, Monique Bourque, and the 1994 Resident Research Fellows for their assistance in preparing this report.

College of Physicians
of Philadelphia
19 South 22nd St.
Philadelphia, PA 19103

Appendix

Reports from Recipients of Resident Research Fellowships

Jeffrey A. Mullins

The Moral Mind: Agency, Psychology, and the Mind-Body Connection in American Thought, 1790–1860

The first half of the nineteenth century witnessed a major shift in American thought about free will and moral responsibility, a move away from an understanding that stressed individual rational agency in overcoming the passionate emotions and towards a view that emphasized the role of the body and its drives in the sphere of moral choice. This shift was firmly rooted in the increasingly accepted medical theories about human nature that undergirded much of early nineteenth-century social thought—medical theories that were themselves motivated by a particular social outlook. My project entails an examination of the drive to teach children the "laws of health" and the physical principles of human nature so that they might have the knowledge to arrange the various elements of their character so as to make themselves self-governed.

My research at the College of Physicians enabled me to conduct a close study of three types of material directly related to these intellectual and cultural developments: rare eighteenth-century European medical treatises that provided the conceptual foundation and narrative exemplars for their nineteenth-century American counterparts; many of the treatises and popular addresses on anatomy and physiology that comprised the teaching materials for school and home instruction in the "laws of health"; and lectures and essays coming out of the medical school environment—a key indicator of the degree and manner in which many physicians were trained to direct their knowledge of the human body.

Early in the nineteenth century medical theorists, moral philosophers, and theologians all were moving towards a view of human nature that envisioned it as composed of three elements: the

intellectual, the emotional, and the physical. The posited existence of such multiple "faculties" (as they were generally labeled) was not new, but the degree to which the intellectual and emotional powers were thought to be not only dependent upon their material substrate, but also in some way constituted by both this corporeal foundation and environmental influences upon it, was a development specific to this period. Based on this view of human nature, contemporaries believed that all of the details of life—dress, diet, posture, sexual habits, exercise, speaking style—had a significant impact not only on one's physical constitution, but also on one's intellectual and moral bearing. Given this understanding of human nature, teaching people—all people, but especially children, who were seen as the most malleable—the laws by which the physical constitution was ordered gradually emerged as a cultural imperative.

The American strain of this intellectual trajectory had deep European roots, and though there were differences in both the conceptual core and the social ends, many of the early nineteenth-century writers on these issues produced works that bore a striking similarity to those of such eighteenth-century health writers as Samuel Tissot and Johann Gutsmuth. One such area of overlap is the profoundly moral implications of these works that were constantly stressing their own "scientific" character, in contrast (they said) to those of several generations preceding them. Such moral directedness in the context of physiological instruction is patently obvious in writers such as William Alcott, but it is also to be found in the apparently more straightforward works of physicians like John Calvin Cutter and Robley Dunglison.

One also finds this moral code (one often identified as "middle class" by historians, though the picture is probably not so simple) in medical school inaugural addresses, commencement speeches, and course lectures. Here the physician was held up as the purveyor of the keys to the knowledge required by virtue, and thus as a privileged moral agent. In the medical context, the discourse on human nature was also intertwined with arguments for the superiority of theoretical understanding over simple empirical observation. Educators like Dr. Samuel Jackson of the medical department of the University of Pennsylvania exemplified this trend.

* * *

Deborah Franklin

Controlling the Atom: The Impact of Ionizing Radiation on Human Health, 1895–1942

The Resident Research Fellowship provided by the Francis C. Wood Institute made a significant contribution to the completion and amelioration of my recent doctoral dissertation, "Nuclear Know-How: Radioactive Technologies, 1895–1942." During the summer of 1994 I relied on the Library's extensive periodical collection and rewrote two chapters of my dissertation which had been drafted on the basis of previous research at the Library (1988–1990). Turn of the century issues of *The American X-Ray Journal, Radium, American Electrotherapy and X-Ray Era, Transactions of the American Surgical Association, Pennsylvania Medical Journal*, and the *American Quarterly of Roentgenology* provided social and intellectual context as well as more concrete information about the evolution of radioactive technologies. Working with the Library staff, and in particular with Jack Eckert, Curator of Archives and Manuscripts, I was able to locate a tantalizing primary source: the minutes of the first meetings in 1905 of the Philadelphia Roentgen Ray Society. This material greatly strengthened the fifth chapter of my dissertation.

During the fall of 1994 I began to focus more on substrate which had sustained this evolution. Gretchen Worden, Director of the Mütter Museum, introduced me to the Museum's significant collection of early X-ray equipment. Discussions with her also spurred me to learn about a particular local technology, the Sayen Tube produced by the Queen Instrument Company of Philadelphia. My research in this area was further enlivened by John Parker's knowledge of the Library's medical trade ephemera collection. Mr. Parker, Project Cataloger/Reference Assistant in the Library, was able to help me locate old equipment advertisements and draw on his technical knowledge to help me figure out how some of this equipment worked. Discussions with the Wood Institute's Scholar-in-Residence, David Cantor, were extremely helpful to my work. I greatly appreciated the opportunity to present a synthesis of my work to the Wood Institute's Seminar Series in the History of Medicine. This forum provides a supportive environment for fledgling scholars to try out their speaking skills while at the same time exposing them to a pretty savvy audience whose feedback is always helpful. The College of Physicians, with its Library, Museum, Wood

Institute, and other resources, remains an ideal location for scholars interested in the history of medicine.

* * *

Allison Pingree

"It's Two That Makes the Trouble": Figures of Replication in the Fiction of Mark Twain, Sherwood Anderson, Eudora Welty, and Carson McCullers

I came to the College of Physicians to pursue American cultural perceptions of conjoined twins, particularly the ways in which such representations complicate and challenge cultural values which depend on the recognition of separate persons, such as individual agency or secure kinship structure. My dissertation research had made me curious about the extent to which conjoined twins, even as they pose problems for such norms, are also often appropriated as emblems of cultural values. Indeed, I had conjectured, they often erode the very ideals they are set up to embody.

The case I wanted to study in the fullest detail was Chang and Eng Bunker (1811–1874). Because the twins were studied by physicians at the College of Physicians (an autopsy was performed in the Mütter Museum after their death in 1874), the College's Library offers resources that are invaluable to a comprehensive understanding of both the lives and the representations of these brothers.

Before applying for and receiving a Resident Research Fellowship, I had done preliminary research on Chang and Eng (and other conjoined twins) at several library collections and the Hertzberg Circus Museum in San Antonio, Texas, and thus came to the College with a sharply focused lens through which to study the Library's abundant resources.

I came to recognize the high quality of the collections even before arriving, as I compiled my preliminary research bibliography. Upon looking in the Library's *Catalogue of the Manuscripts and Archives* (1983) and speaking with Jack Eckert and Gretchen Worden, I was impressed by the wide range of materials on Chang and Eng and other conjoined twins at the College, from highly technical autopsy records to more colorful publicity materials to the

actual conjoined liver and plaster body casts of the twins on display in the Mütter Museum.

During my fellowship I was able to read through, take notes on, and order photocopies of certain pages made from essentially every item on my list. In addition, I came across other articles—through the bibliographies in the materials I looked at, as well as through suggestions from Jack Eckert and others—that further enriched my understanding and analysis of Chang and Eng. I was particularly delighted with the Library's scrapbook on Chang and Eng, ranging from publicity pamphlets to cartoons to lithographs to broadsides to magazine articles, all material which I pored over and wrote about in my notes in great detail. Moreover, because I had a bit of additional time, I was able to gather some material on other conjoined twins, mostly from the exhaustive files of Gretchen Worden, including the Tocci brothers, Millie-Christine, and Daisy and Violet Hilton (1908–1969).

I also greatly benefited from the chance, while at the Institute, to meet William H. Helfand, a Fellow of the College, with whom I discussed my topic. Not more than a few hours after we met I had in my hands a copy of the 1926 sheet music featuring the Hiltons ("Me Too! Ho-Ho! Ha-Ha!"), which Mr. Helfand had donated to the Library. This song played a major role in a conference paper I wrote later that year on the Hilton Twins (which I am now revising for publication). I am happy to say that Mr. Helfand and I have corresponded since then, exchanging queries and suggestions on a variety of topics.

The most obvious scholarly result of my fellowship is that my article "America's 'United Siamese Brothers': Chang and Eng and Nineteenth-Century Ideologies of Democracy and Domesticity" has been accepted for publication in a collection of essays, entitled *Reading Monsters, Reading Culture* (University of Minnesota Press, forthcoming). In addition, an expanded version of the above-mentioned conference paper on the Hilton Twins, "'The Exception That Proves the Rule': The Hilton Twins and the Bonds of Domesticity," also has been accepted recently for publication in another collection of essays, entitled *Freakmaking: Constituting Corporeal and Cultural Others* (New York University Press, forthcoming).

While these publications are the most concrete benefits of my fellowship, I profited in other ways. Having the opportunity to present my work-in-progress at the Wood Institute's Seminar Series in the History of Medicine, for example, forced me to develop my

thoughts further, and gave me valuable feedback and suggestions for revision. Those revisions played a key role in developing the article for publication.

In short, having the honor to be a Wood Institute Resident Research Fellow encouraged me to take myself as a scholar, and my particular project, more seriously—to pursue my work much more vigorously than I would have otherwise. I deeply appreciate the Wood Institute's support, the thoroughness and courteousness of the College staff, and the rich abundance of the Library's collection.

* * *

Paul E. Berman

The Medical Mutual Improvement Society in America, 1720–1835

My interest in the development of the medical mutual improvement society in America stems from the discovery of a cache of manuscripts relating to an organization known as the Union Medical Association (UMA), which existed in Mendon, Massachusetts, from 1835 to 1844 (the archives of the UMA are housed at the University of Massachusetts Medical School Library in Worcester). This group of 24 physicians met once a month to discuss interesting cases and local problems relating to the medical profession. The UMA's members were not, however, interested in setting fee schedules or delving into other political matters, such as licensing; they believed that these issues were the responsibility of state medical societies. The UMA's goals were purely educational.

When I embarked on my research into the development of the medical mutual improvement society, I discovered that groups similar to the UMA had been lumped by historians into the history of medical societies in general. Because these organizations tended to be small and/or were in existence for short periods of time, their role in the development of medical practice in America has been neglected.

The Library of the College of Physicians has been a major source for my research. The institution's *Transactions* supplied me with data not available elsewhere, particularly with reference to the College itself, which, by my definition, began as a mutual improve-

ment society. I was especially interested in the first volume of the *Transactions* (1793), which presented the various medical cases discussed by the College's Fellows. The Library's collections provided me with information on the early history of medicine in Philadelphia. The extensive collection of secondary sources enabled me to achieve a better understanding of what was going on in other states and cities besides Pennsylvania and Philadelphia.

Probably the most important aspect of my fellowship was being able to talk with Tom Horrocks and his very competent and knowledgeable staff about the various approaches one might take in studying my topic. I am an amateur historian with no formal training in the field, but I learn by going to the experts and seeking their advice. Most importantly, I had the chance to discuss my project with College Fellow and historian Whitfield Bell during one of his visits to the Library. He gave me insights into the subject that I had not considered, and directed me to pertinent articles.

* * *

David McCarter

Medical Ideas and the Popular Press in New England, 1680–1820

I am interested in how the "popular" genre of almanacs dealt with the "learned" subject of medicine in eighteenth-century New England. I am also interested in the readers of almanacs and what they thought about medicine. In short, I want to explore the interaction between the reader and the text in drawing the boundaries between "popular" or lay healing and "learned" medicine.

I have assembled many medical passages from almanacs as well as from diaries, commonplace books, and letters of people who were likely to make use of almanacs. For the historian, especially the young historian, these texts present some problems of interpretation. They tend to be short, and they tend to assume some intimate knowledge of contemporary medical practices on the part of the reader. While at the College of Physicians of Philadelphia, I concentrated my research on books that would help me interpret particular issues raised in both the almanacs and the manuscripts.

Rabies is a subject which appears often in both almanacs and

private writings. Some of these passages are easy cures "for the bite of a mad dog." Samuel Stearns, in his *North-American Almanac* for 1771, however, recommends a harsher cure—one that includes burning the wound. What was the current state of knowledge concerning rabies? To help answer this question, I turned to Michael Bourke's *Review of the Subject of Canine Madness* (Philadelphia, 1792). Not surprisingly, Bourke's initial recommendations are quite similar to those of fellow physician Samuel Stearns. Both doctors emphasize the small amount of saliva it takes to infect a person with rabies. Both cite cauterization as the primary means of cure. Both note that other measures, including immersion in salt water, can be effective. Stearns, however, presents other, internal treatments as alternatives only to be used when so great a time has elapsed between the person being bitten and treatment, that external treatment is no longer possible. For Stearns, only cauterizing the wound "destroys all the malignity." Bourke, on the other hand, concludes that "the acrimony peculiar to this disease may be destroyed in more ways than one," thus giving some space for readers to experiment with "easy" and "certain" cures found elsewhere.

Small pox inoculation is a recurring theme in the literature I have studied. Though Massachusetts almanac-makers and printers did not take part in the initial inoculation controversy of 1721, they did enter the fray, usually on behalf of the practice, in later periods. Massachusetts almanacs, at least the ones I have examined, again appear silent when vaccination is introduced at the end of the century. Their audiences, however, were not silent. At least two diaries note opposition to the new practice, some of it resulting in mob violence. Other residents of Massachusetts viewed inoculation in quite a different light—for example, as a sign of God's blessing.

Books on popular medicine, such as Buchan's *Domestic Medicine* and Tissot's *Advice for the People* were often cited as authoritative sources in almanacs. Passages from these works often appeared as articles. Perhaps the main task of an author of a book on domestic medicine was to strike a balance between enabling families to "doctor" themselves with more proficiency and encouraging them to seek a medical professional when matters were, in the author's opinion, too serious for the amateur. One popular health book in the College's Library, James Parkinson's *Medical Admonitions to Families* (Portsmouth, 1803), defines an extremely limited role for the domestic healer. Parkinson's restrictive point of view is in accordance with the implicit and explicit messages within some late eighteenth- and early nineteenth-century almanacs.

George Young's *Treatise on Opium* (London, 1753) illuminates an area of eighteenth-century medical theory found in one of my most fascinating sources: the diary of Ebenezer Martin (a reader of almanacs) for the year 1796. The diary, contained in an interleaved *Stoddard's Diary, or the Columbia Almanack for 1796*, tells the tale of daily woe of Martin, a Connecticut minister-turned-cobbler, spending his twilight years on the alien New York frontier. He was constantly depressed, often sick, and the only thing which seemed to lift his spirits was frequent doses of opium, apparently prescribed for him by a Dr. Rose. Young's *Treatise* cautions against the use of opium without finding the underlying causes of pain, and also against its use in cases of melancholia—the opposite course of that prescribed by Dr. Rose for Martin.

As a result of my fellowship at the College of Physicians of Philadelphia, I will be able to better understand the interaction between lay and professional belief and practice in early American medicine.

* * *

Lisa Herschbach

The Hidden Civil War: Medical and Literary Narratives from the Turner's Lane Hospital

Looking back on four years of work in a Union Army hospital on the outskirts of Philadelphia, S. Weir Mitchell reflected that "no book tells the personal life of a war surgeon." "Except as to our technical story," he observed, "we remain unrecorded." Mitchell himself made prodigious contributions to the technical literature of medicine in the American Civil War. Employed as a contract surgeon at the Turner's Lane Hospital for Nervous Diseases, Mitchell wrote many of the scientific texts for which he remains renowned. While at Turner's Lane, Mitchell began systematic clinical studies of injuries to the brain and nervous system, pain, paralysis, shock and exhaustion. His pioneering work was praised by contemporaries for its thoroughness and wealth of statistics. Mitchell's medico-military writings delineated research protocols and introduced therapeutic techniques (such as the Mitchell "Rest Cure") which were widely

acknowledged to have profoundly influenced the development of American neurology after the Civil War.

During my residence at the Wood Institute, I explored another somewhat neglected product of Mitchell's wartime hospital work: his forays into fiction-writing. Mitchell published his first work of fiction anonymously in 1866. Titled "The Case of George Dedlow," the story was ostensibly an autobiographical case record of a Turner's Lane patient afflicted with "phantom" pains in his amputated limbs. Mitchell's first novel, *In War Time*, presented a startling tale of the inexorable moral and psychological disintegration of the contract-surgeon at work at Turner's Lane; the novel reads in places like a thinly disguised memoir. Many of Mitchell's subsequent works of fiction also featured the military hospital as a central or ancillary motif. The Library of the College of Physicians holds a broad sampling of Mitchell's literary and medical writings during the 1860s and following decades. My research focused on the recently acquired and cataloged S. Weir Mitchell Papers, among which are found a 300-page typescript of his unpublished autobiography; literary notebooks and manuscripts of Mitchell's novels, stories, and poems; contemporary reviews of his fiction; correspondence with physicians and literary figures (such as William Dean Howells, Owen Wister, and Oliver Wendell Holmes); as well as original case histories of over 200 Turner's Lane patients, and records of Mitchell's follow-up studies of almost one-third of these patients through the 1890s.

Why was a Civil War surgeon writing fiction? This was the broad question my research explored. The project constitutes a part of my larger dissertation study of the impact of the war on American medical identity and organization, and of medicine's role in framing the cultural understanding of death and disability in the North in particular. Reading through Mitchell's varied literary corpus soon confirmed a premise with which I had begun my research. His fiction, I found, served to fill a lacuna in the record of Civil War medicine which he identifies in the opening quote: literature offered a space to articulate a "personal" (and often profoundly problematic) story of military medical practice, one absent from the technical medical literature of the war. Mitchell employed fiction as a means to negotiate ethical, intellectual, and professional dilemmas presented by work as an army surgeon. Northern mobilization and combat brought unprecedented professional opportunities to many American medical practitioners, but at a staggering human cost.

Military medical work likewise presented antagonistic responsibilities toward research and the advance of scientific knowledge on the one hand, and the humanitarian assuaging of suffering on the other. Such conflicts occupied the minds of numerous members of a profession devoted to saving life, which during wartime acted in the service of organized slaughter. Mitchell's literature provides a rare source of insight into how these paradoxes—silenced within the profession, fundamentally celebratory discourses of clinical and military medicine—were nonetheless critically expressed in alternative spaces and narrative genres such as fiction. I discuss these issues in greater detail in an article based on my Wood Institute research ("True Clinical Fictions," *Culture, Medicine and Psychiatry* 19 (1995): 183–205).

Another unanticipated and valuable find among the Mitchell Papers merits mention here: close to one hundred letters and completed questionnaires addressed to Mitchell from wounded and disabled veterans treated during the war. If military surgeons like Mitchell had difficulty resolving the incompatible imperatives of military medical practice, these records show clearly that disabled veterans seeking reintegration into postbellum society faced challenges of equal magnitude. These letters reveal another, grimmer side of war in the same way that Mitchell's fiction explores the underbelly of military medical work. These men do not write about their experiences of combat and injury in the heroic, redemptive idioms so common to contemporary political and religious records of the conflict. Rather, veterans wrote to Mitchell describing difficulties with prostheses and severe suffering and pain in amputated limbs; they describe the vagaries of an alienating medico-military bureaucracy, and overwhelming difficulties achieving pension support, employment, or medical care. A particularly poignant letter expresses the nostalgia of one maimed veteran for the physical and psychological health of his youth, before he lost his arm in a Gettysburg field hospital. The man's hunger for wholeness is sated, literally, only in dreams: "I was 24 years old when I lost my arm, and am now 67. Almost two-thirds of my life has passed without thought of the possible use of my right arm, and yet never have I dreamed once that I was not without two arms. . . . In my dreams, I remain a man with a perfect frame." It is from these letters and personal anecdotes in fact—tragic, lyrical, and metaphorically suggestive—that Mitchell seems to have drawn inspiration and ideas for many of his fictional stories.

In addition to the Mitchell Papers, I made use of other hospital

records, such as case records kept by Union Army Surgeon William Fisher Norris at the Douglass Hospital in Washington, D.C., to provide a broader context for understanding the vicissitudes of life and work in the Civil War hospital. Other materials revealing of military medicine's contentious attempts to write its own history of duty and service included correspondence and newspaper clippings detailing debates over the erection of monuments to military surgeons and nurses; and poems, musical pieces and other testimonials written and performed by army medical staff.

My period of research at the College of Physicians underscored, above all, the limitations of official medical records of the war as historical resources. To put this another way, I came to see the technical, scientific record of Civil War medicine to be as fictitious—in the entymological sense of being constructed—as Mitchell's literary imaginings. As I approach the conclusion of my dissertation, I know I too will not be telling the complete or "true" history of Civil War medicine and disability. Indeed, it would be anachronistic for me to attempt to reintegrate a story which appeared fragmentary, multiform, and contradictory to participants themselves. Instead the rich variety of records held at the Library of the College of Physicians will enable me to draw a more nuanced, textured picture of the medical history of the Civil War: a complicated interweaving of professional opportunity and individual sacrifice, constantly intruding and challenging the memories of military physicians, veterans, and historians alike.

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Jennifer L. Gunn

Controlling the Population: Ideological Links Among Contraception, Life Extension, Public Health, and Population Policy

In the 1920s and 1930s, two philanthropic foundations—the Rockefeller Foundation and the Milbank Memorial Fund—promoted the development of population studies in the United States. Both foundations had extensive experience with public health projects; they played a significant role in shaping the organization of public health in the twentieth century. Their interest in population

control was, in many respects, an extension of their interest in public health—a concern for the hygiene of the populace carried to its logical extreme. As mortality rates declined in the wake of public health interventions, the patrons of public health felt a corresponding obligation to concern themselves with the issue of population growth.

The question I hoped to explore during my fellowship at the College was whether public health practice provided a model and a rationale for population policies and population control. I wondered whether these foundations had a pragmatic reason for casting population control as part of a comprehensive public health program: that is, the discretionary police powers—to quarantine, hospitalize, inspect, and vaccinate—that had been bestowed on public health authorities over time. Might such powers be used, under the general consensual guise of protecting the public's health and efficiency, to implement a national population policy? But how had these powers been wielded historically? Using Philadelphia as a case study, I planned to examine what power public health agencies had to regulate the public hygiene in two situations—routine public health practice and the crisis of the 1918 influenza epidemic—in order to assess whether public health authorities provided a model for professionals seeking to implement population studies. How did municipal health departments compel people to live hygienically for the sake of the collective welfare, and how did elite experts (such as the Fellows of the College of Physicians of Philadelphia) interact with public officials or otherwise influence the application of those compulsory powers?

The College, at the instigation of Dr. James Anders, established a standing committee on Public Health and Preventive Medicine in 1912. Anders advocated that the College begin a campaign to educate rank and file doctors about hygiene and sanitation, to get hygiene education into the public schools at all levels, and to educate the lay public in the essentials of disease prevention necessary to maintain public welfare. Specifically, he proposed a series of popular lectures at the College "to mold public opinion with, oftentimes, crystallization into suitable laws and sanitary regulations." The standing committee should issue "authoritative opinions" to the "community at large" from time to time. The College's express interest in public health was augmented in 1917 with the addition of a specialty section devoted to public health and industrial medicine.

The issues addressed by the Committee were just what one might expect for a public health body in the 1910s and 1920s: pure water and sewage treatment (a lingering and often controversial

problem in Philadelphia); pure milk and clean food supplies; child hygiene; street cleaning (Alexander Abbott declared "never was a city so lax as Philadelphia"); an anti-rat campaign; and venereal disease. Unfortunately, the record does not show the Committee leading the Fellowship into battle as crusaders for the public interest. The history is more one of relative silence or ineffective resolution. The Committee and occasionally the College sent resolutions to the state legislature or City Council; most of these petitions were not even generated from within, but were brought to the College for endorsement by other voluntary organizations. Several Fellows were members of the city's Board of Health or held leading positions within the Health Department, such as Joseph Neff, Courtland Y. White, Alexander Abbott, and George Woodward, and it is primarily through their individual actions that the College might be said to have had any influence on the administration of public health in Philadelphia.

In the case of twentieth-century Philadelphia and the College, I would have to conclude that an organized body of elite medical experts had little direct influence on the exercise of public health authority. But in the process of tracking the early years of the College's Section on Industrial Medicine and Public Health, I discovered an interesting story about the development of occupational medicine. The Section's speakers provided insights into mundane concerns of physicians struggling to adapt to new forms of practice and compensation—among them, factory-based practice—in a rapidly changing medical marketplace. The national debates in the 1920s and 1930s about the distribution and costs of medical care have strong resonance in late twentieth-century America. Ironically, from the perspective of contemporary witnesses to the reinvention of primary care, the debates of the 1920s were accompanied by increased medical specialization. Industrial physicians appearing before the Section who asserted that their expert knowledge of industrial processes in relation to health constituted a new specialty were following a larger trend in clinical medicine at that time.

Although somewhat distant from my initial questions about public health and police powers, the discussions of the Section did show how some physicians defined problems among groups in the American population in terms of biological constitution. It was this biological orientation to the hygiene and health (or quality) of the population that drove the Rockefeller's and Milbank's interest in population. At one of the first Section meetings, Dr. J. C. Foltz asked the author of a paper on workmen's compensation about the

number of accidents occurring to "subnormal persons" and urged that pre-employment examinations be used to exclude them from the labor force in order to reduce accidents.

Dr. James T. Rugh, an orthopedic surgeon who worked extensively on "the cripple problem," expressed the sentiment of many Fellows that "the unfits of the present generation and those who are to come, lies in the source of the supply." The source of the unfit was not crippling industrial accidents but allegedly unfit individuals marrying and having children. "When we are willing to attack the source and limit the supply (and we have a perfect right to do it)," Dr. Rugh argued, "then we will improve the percentage of efficients in our population." For many doctors in this period, the productivity of industrial workers was believed to rest as much in their individual biological inheritance as in safe and healthy environments.

Doctors brought to the practice of industrial medicine ideas about their worker-patients rooted in constitutionalism. It was an approach compatible with practical considerations: employers were willing to have industrial medical services in large part because they believed physicians' diagnostic skills in pre-employment examinations would result in a more stable, cost-efficient labor force. Company doctors' first line of defense against occupational disease and injury was not to eliminate workplace hazards, but to screen out less healthy individuals. Their task was simultaneously to fit the worker mentally and physically to the job, and to establish a profile of a worker's health status to protect employers against workmen's compensation claims.

Public campaigns to improve occupational safety and health did attempt to invoke the police powers assigned to public health departments and boards, but the practices of company doctors were more closely tied to clinical medicine than to public health. Employers created a new role for physicians as gatekeepers within the workplace, with some power to classify workers, refuse access to jobs, and enforce management policies about absenteeism. Industrial medicine simultaneously created new opportunities and new sources of compensation for physicians and provided medical services to a large, previously underserved sector of the population: workers and their families.

Duties to Science, Duties to God: Medical Theory, Physiology, and the Discourse on Morality in Nineteenth-Century America[1]

Jeffrey A. Mullins

> Soon, the study of *physical*, will be regarded as indispensable as that of *moral* man. . . .
>
> A slight retrospection at the state of these departments of medical science in former times, marked, as they were, by ignorance, credulity, and superstition, will exhibit the immense improvement that has taken place in comparatively modern periods, and will encourage a hope, that as the physical and moral sciences pursue their onward progress, and as the means of observation and experiment are augmented and facilitated, the science may attain a pitch of perfection, of which at the present time we can form no adequate conception, shedding light where all is now obscurity, and tending to dispel doubt and difficulty.
>
> . . . The mutual action of the *physique* and the *moral* on each other, is indeed, one of the most interesting and useful studies to the physician.[2]

Robley Dunglison, who would later become so well known as a professor at Jefferson Medical College in Philadelphia, wrote this passage in 1833 while still practicing in Baltimore and teaching at the University of Maryland. His words reflect an emerging view of

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[1] This paper was originally presented in April 1995 at a seminar sponsored by the Francis Clark Wood Institute for the History of Medicine at the College of Physicians of Philadelphia. Much of the research was done during a resident research fellowship at the Wood Institute.

[2] Robley Dunglison, *An Introductory Lecture, Delivered to the Medical Class of the University of Maryland, On Friday, October 31, 1833* (Baltimore: John D. Toy, 1833), pp. 5–6, 16.

human nature that played an important role in both medical knowledge and American culture more generally, and inspired a variety of social reform efforts throughout the first half of the nineteenth century. On this account the human constitution was comprised of three elements—the intellect, the emotions, and the physical body—that needed to be cultivated in a harmonious balance with one another in order to attain the "self-government" or "self-possession" that was so widely called for in the era.

The body was particularly important in this model of human nature, and physicians and lay reformers alike endeavored to shape public understanding and behavior so as to conform to the "laws of health" that governed all three parts of the constitution. As firmly rooted in medical theory as these efforts were, and as much as physicians like Dunglison pronounced the scientific character of both their principles and recommended practices, the advice cast in the language of physiological imperative also served to further explicitly moral and religious ends. Even as physicians distinguished their "rational" practices from the "superstition" that had preceded them, theological concerns with the state of the soul and questions of morality motivated many of their accounts of physiological systems and the behaviors they necessitated. This persistence of moral concerns was entailed by the very model of human nature that physicians and reformers employed to underpin the importance of the material body and the role of medicine in providing directives for personal behavior.

Many of these directives were aimed at promoting "self-government" in individuals, a goal that health reformers shared in common with nearly all other reform movements (e.g., abolitionism, education, prison, and asylum reform). Self-government entailed the free moral agency of every individual in making decisions and actions (and the moral accountability for the results), and under the emergent understanding of human nature was attained by cultivating a harmonious balance among the intellectual, moral, and physical powers. Though the means to bring about this balance increasingly centered on a careful control of the body—thus elevating the role of the physician—many of the specific practices in this process were direct carry-overs from the preceding century, during which self-government was more a matter of directing a rationally-guided will to keep the passions in check.

There were, however, some fundamental differences between the earlier "rational control" model of self-government and its nineteenth-century successor. Whereas earlier both moral obligations and health precepts were generally passed down with little explana-

tion of the principles underlying them, those making such statements in the nineteenth century stressed the need for every individual to understand the workings of the human constitution. "Know thyself" was an oft-uttered imperative, and given the central role of the body in the new conception of human nature, one which required a knowledge of basic physiology and health practices. But such a requirement could serve to undermine the increased authority culled by physicians as a result of the new model of human nature. As with the tension between the dual goals of "scientific" methodology and moral ends, this apparent conflict between medicine's increased professional authority and its goal of disseminating to the lay public the knowledge upon which it was founded, arose in large part from the very model of human nature that physicians, reformers, and others were so rapidly adopting. When they came into direct conflict the commitment to foster self-governance and moral accountability generally took precedence over scientific rigor or the cloistering of expertise, but ultimately both of these were contained within the larger goal of properly cultivating human nature: medical knowledge furnished the "laws of health" that (if followed) would produce balanced and self-governed individuals.

In the first half of the nineteenth century a wave of reform movements swept through American culture, a surprising number of which focused on bodily health and functions: diet, temperance, exercise, and sex all became subjects of intense interest. With increasing frequency, physicians and health reformers raised questions about what forms of dress, posture, bathing, and schoolroom furniture and ventilation would best improve both the physical constitution and the faculties of the mind.[3] What brought on this heightened attention to the body and its various functions? These efforts to reform bodily practices and the hygienic environment shared with other reform movements of the era a deep concern with moral agency, with what was termed "self-government" or "self-possession," by which contemporaries meant the need for the individual to be in control of his or her faculties and all of the decisions arising from them.

This emphasis on self-government received its shape from a convergence (beginning in the preceding century) of the discourses

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[3] On "body reforms," see Ronald G. Walters, *American Reformers: 1815–1860* (New York: Hill and Wang, 1978), pp. 145–72; Harvey Green, *Fit for America: Health, Fitness and Sport in American Society* (New York: Pantheon Books, 1986); and Stephen Nissenbaum, *Sex, Diet, and Debility in Jacksonian America: Sylvester Graham and Health Reform* (Chicago: Dorsey Press, 1980).

of theology, moral philosophy, and medical theory around the mind and its connection to the body as the site of free will and moral accountability, and thus the body increasingly became the point at which to address concerns about the need for greater virtue and self-possession. Over the course of the eighteenth century a perennial problem in theology was the question of the "freedom of the will," that is, how to allow for human responsibility and moral accountability while maintaining God's sovereignty. On the whole, the movement of religious thought and practice was to minimize God's direct role in governing the universe and to stress the manner in which his will was carried out by a system of regular laws, the principles of which could be discerned, and the obligation to which it became the duty of every Christian to fulfill.[4]

One of the most prominent articulations of this shift was the "common sense philosophy" emerging from Scotland in the late eighteenth century, an approach to the issue of human nature and moral duty that was widely taught and discussed throughout the nineteenth century. Common sense philosophy entailed the claim that one needed to come to an understanding of human nature in order to know anything about the world or what one was obligated to do in it. Thomas Reid, Dugald Stewart, and others in this tradition originally directed this self-examination towards the determination of the nature and arrangement of the rational, passionate, and willing faculties. In its nineteenth-century American appropriation, however, common sense philosophy was melded with a growing medicalized emphasis on the body to produce the model of the human constitution as comprised of the intellect, the emotions, and the physical body.[5]

Nathan Allen, upon graduating from the Pennsylvania Medical College, sketched some of the reasons motivating this turn away from introspection on the "interior" faculties and towards a more

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[4] On this naturalization of the basis of morality and God, see James Turner, *Without God, Without Creed: The Origins of Unbelief in America* (Baltimore: The Johns Hopkins University Press, 1985), and J. B. Schneewind, ed., *Moral Philosophy from Montaigne to Kant* (Cambridge and New York: Cambridge University Press, 1990), Vol. I, pp. 1–31.

[5] On American appropriations of common sense philosophy, see Daniel Walker Howe, *The Unitarian Conscience: Harvard Moral Philosophy, 1805–1861* (Cambridge: Harvard University Press, 1970), and Bruce Kuklick, *Churchmen and Philosophers: From Jonathan Edwards to John Dewey* (New Haven: Yale University Press, 1985).

systematic assessment of the role of the body in structuring human character:

> Metaphysicians have omitted in their investigations almost entirely the intimate and necessary connection that exists between the mind and the body. In all their researches, they have viewed the mind as an *abstract essence*—as existing, and performing all its operations, independent of any material instrument or agency. They have treated not only with neglect, but with disrespect, that great law established by an all-wise Creator—viz. that *mind, in this world, should be dependent on physical organization for its manifestations*. This law constitutes the only true foundation upon which any correct system of mental philosophy can possibly be based.[6]

While not directly contravening the fundamental Protestant belief that the mind or soul was immaterial and immutable, Allen shifted the focus to the physical substrate that made earthly existence, cognition, and morality possible.

Allen critiqued this perspective not only for its irreligious perspective, but also for its failure to be sufficiently scientific: "Writers on this subject have not only based their systems of philosophy on *reflection* and *consciousness* in general, but they have erected their own individual consciousness into a universal standard." Fulfilling the dictate "know thyself" solely by gazing inward was bound to produce limited, if not flawed, results. One needed to turn the mental eye outward:

> Another radical defect in past methods of investigating mental phenomena, consists in an almost entire reversal of the true mode of studying nature. *Observation* and *experiment* are the only sources by means of which we can derive any positive evidence for the establishment of principles in science. . . . But instead of pursuing this slow and tedious process, as marked out by the immortal philosopher of inductive philosophy, metaphysicians have first commenced by forming visionary hypotheses and assuming certain premises, and afterwards have attempted to reconcile facts with these. They have retired to their cloisters, and speculated by the light of their own con-

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[6] Nathan Allen, *An Essay on the Connection of Mental Philosophy with Medicine* (Philadelphia: Adam Waldie, 1841), p. 5. Emphasis in original.

> sciousness, when they should have studied by observation and experiment the great book of nature.[7]

Despite its urgent tone, Allen's was actually a voice at least half a measure behind the tempo of the times. There were indeed tensions between the earlier mode of inquiry in moral philosophy and that proffered by more medically-oriented moralists, but these two strains of thought had already begun to converge early in the century. By the time Allen made his case it was far more an enunciation of a widely shared belief than a radical critique.

William Alcott, a physician, teacher, and conduct manual author, is representative of the degree to which moral philosophy was mixed with medical theory, and practical reform endeavors with abstract ethical and scientific reasoning. One of the most widely-read health reformers of the era, Alcott helped popularize the view that morals could be guided by the observation of nature, and individual reform accomplished by careful attention to bodily habits and practices. Like most of his colleagues, he employed the (by now ubiquitous) premise that God's will was to be found not only in the Bible, but in the world at large, stating that:

> There are properly two sets of the Divine laws. One of these is found in the Decalogue, already alluded to, as well as elsewhere, and is called the *moral law*; the other, though alluded to there, is to be chiefly learned by study, and is called the physical law. It is found operating both in us and around us. We cannot, if we would, escape from it. It is everywhere.[8]

These physical laws were earthly and unaltering manifestations of God's will, and could not be ignored without both physical and eschatological repercussions. These laws were especially important given the increasingly common view that human character had its basis in the physical constitution. As Alcott observed, "the brain is the seat or centre, as it were, of the mind." He also noted that generally "either the cerebellum or the great sympathetic nerve is supposed—and I think justly—to be the seat of the affections, passions, and propensities."[9] Both the intellect and the emotions were rooted in the physical body, making their development

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[7] Ibid., p. 7. Emphasis in original.
[8] William A. Alcott, *The Laws of Health* (Boston: J.P. Jewett, 1857), p. 11. Emphasis in original.
[9] Ibid., pp. 376, 380.

and operation dependent on the condition and organization of their material seat.

Whereas, in the eighteenth century, physicians generally agreed with theologians and moral philosophers in emphasizing the degree to which the immaterial mind needed the physical brain to manifest its qualities on earth, by the early nineteenth century there was a growing emphasis on the claim that the mind was by its nature substantially interconnected with that physical substrate. Amariah Brigham, a physician and vocal proponent of social reforms guided by the new understanding of human nature, was among those arguing that "the varying states of the [physical] organization have a powerful influence upon the intellectual and moral faculties." The goal of his work, then, was

> to teach that man, at every period of his existence, should be considered both as a spiritual and material being—as influenced both by spiritual and moral causes, and that therefore all plans for his improvement should be formed, not from a partial view of his nature; but from a knowledge of his moral, intellectual, and physical powers, and of their development.[10]

Brigham's observation was part of an intellectual trajectory that characterized the human constitution as more thoroughly integrated or "holistic" than it had generally been viewed.

Developments in medical theory and physiology from the late eighteenth century on suggested to contemporaries that the mind might be intimately connected not only with the brain, but with the physical body in general.[11] Though the evidence and close arguments for this position usually came from physicians, moral philosophers and theologians actively participated in the move to characterize the mind as somehow founded in the body, a move that increasingly made issues of free will and morality a matter of medical concern.

With this conceptual shift came a shift in the duties required for

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[10] Amariah Brigham, *Remarks on the Influence of Mental Cultivation and Mental Excitement Upon Health* (Boston: Marsh, Capen, & Lyon, 1833; second edition; originally published in 1832), pp. 39, vii.

[11] Experiments and physiological discoveries by people such as Robert Whytt, Charles Bell, Françoise Magendie, Johannes Mueller, and Hermann Ludwig von Helmholtz contributed to this understanding. See Edwin Clarke and L.S. Jacyna, *Nineteenth-Century Origins of Neuroscientific Concepts* (Berkeley: University of California Press, 1987); and Mary A. B. Brazier, *A History of Neurophysiology in the 19th Century* (New York: Raven Press, 1988).

individual virtue and self-governance. No longer merely a matter of rationally directing the will to reign in the passions, self-government required balancing the three elements of the human constitution, a feat largely accomplished by adopting appropriate bodily practices. Under the new understanding of human nature, a goal of paramount importance was to balance the different components of human nature: overdevelopment of any one element to the neglect of the others could have disastrous effects. Physicians and reformers of all stripes were particularly worried about an over-cultivation of the intellect at the expense of the morals and the physical constitution, and redressing this perceived imbalance was one of the major imperatives of early nineteenth-century reform movements.

This continuing commitment on the part of nineteenth-century physicians to the moral and religious foundations for self-government is manifest in the burgeoning health reforms aimed at encouraging "hygiene" and promoting "physical culture." The first half of the nineteenth century was replete with advocates for Americans to purify their behavior; proper diet, dress, sexual habits, and posture were all objects of their concern. Endeavors to promote exercise, bathing, and ventilation of homes and schools—and to discourage such habits as the drinking of alcohol, coffee, or tea—were also widespread. Reform of the offending cultural practices (and the substitution of more pure behavior) was a goal taken up by both physicians and lay people alike, and embodied the pervasive dynamic in medical thought between physiological and moral principles.[12]

The medical reasoning behind these reforms stemmed from two sources: the belief that the three parts of the human constitution (i.e., the intellectual, the emotional, and the physical) had to be balanced if health was to be preserved; and the understanding that the body had a finite amount of "nervous energy" or "vital force," and that if this was used either excessively or improperly, the individual would become "dissipated." Such dissipation could result from improper behavior in any of the three spheres of human nature: too much study, especially by those not accustomed to it, could disorder the intellectual faculties; exciting the sentiments would do the same to the emotional faculties, a condition often said to be brought on by excessive "novel reading"; and poor bodily habits could cause illness either of a particular organ

[12] Unlike the prison, asylum, or antislavery reform movements, these hygienic reforms were far more concerned with preventing deviations from the norm of self-governance rather than rescuing those already clearly beyond the bounds of self-possession.

or of the whole body through "nervous" ailments. Health reformers—physician and lay alike—addressed themselves to correcting behavior in all three spheres of the human constitution, and to promoting a harmonious development among them, but the deviations from an appropriate "physical culture" were by far their chief concern.

Following the lead of common sense philosophy, health reformers argued that since people started out with pure and reliable instincts about what their bodies needed to be fit, ideally they should not need systematic instructions on how to maintain or restore their health. The temptations and vices of civilized society, however, perverted these instincts, and began to do so at such a young age that even by early childhood people were in serious physiological—and thus moral—danger.[13] Indeed, many of the behaviors considered sinful under a more traditional Christian rubric, such as gluttony, sloth, and intemperance, turned out to be precisely those physical practices that would dissipate the nervous system and throw the constitution out of balance. While physicians generally noted the immorality of such behaviors, they focused their critique of them on their physiological consequences.

One of the traditional moral ills which found a place in the new medicalized standard of behavior was masturbation. Henry Howland, a Massachusetts health reformer, was explicit about both the moral evil of this habit and its unavoidable physiological consequences: "It is a vice which excites, to the greatest activity, the strongest and most incontrollable propensities of animal nature."[14]

> From the hand of God himself we receive the noble attributes which distinguish us from the animals around us. This vice reduces us below their level. To Him are we responsible for this abuse of faculties which are given us to improve and to cultivate for our own happiness and that of our fellow creatures. We cannot, with impunity, violate the laws of our being. This organic law of our formation, is imperative and abiding—no abuse of it will go unpunished—suffering will follow, if it be not scrupulously obeyed.[15]

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[13] This medicalized version of the Fall from original grace generally remained an implicit (but obvious) analog to its spiritual counterpart, though some physicians stated the parallel outright.

[14] Henry J. Howland, *Hints for the Young in Relation to the Health of Body and Mind* (Boston: George W. Light, 1840; fourth stereotype edition; originally published in 1838), p. 7.

[15] Ibid., pp. 7–8.

Masturbation—like the failure to bathe daily, to abstain from drinking alcohol, to avoid eating to excess—had incredibly grave consequences. Given the intimate connection among the faculties of the human constitution, by engaging in this practice of "self-pollution" one risked physical disease, emotional disorder, and possibly even insanity.

What brought on the innumerable and feverish cries against practices that hardly seem life- or sanity-threatening to the modern observer? Accompanying the confluence of theology, moral philosophy, and medical theory around the position of self-government as based in a mind-body connection was an "environmentalist" vision of the manner in which the tripartite human constitution developed. While everyone had certain innate capacities for judgment, these could be either developed by proper cultivation or obscured by inappropriate behavior or surroundings. There were, furthermore, other faculties of the human constitution that were not innate, but rather acquired, and these depended all the more so on a healthy environment for their proper development. While this developmental process was particularly important in one's early years, the process of cultivating and maintaining a balanced constitution never ceased. In childhood it was parents and teachers who were responsible for directing this development; later on it was up to every individual to improve his or her constitution.

Such improvement required self-government: a command over one's own faculties. This command was gained through discipline and virtuous habits, habits which would make proper action increasingly easier with every invocation. Self-government came about through habit, and the formation of appropriate habits was a chief concern of both moral philosophers and medical reformers. William Alcott attempted to demonstrate to his readers the importance of such habits, even those that were seemingly trivial.

> The sources of disease, morally and physically, are much oftener to be traced to wrong habits in very small matters than most of us are aware. The Mississippi does not burst out a Mississippi at once; neither does deep-seated disease, physically or morally. It is fed by thousands of small streams,—some so small as hardly to attract notice.
>
> The practical inference, in this case, is of immense importance. If the larger streams, physically and morally, are made up from the smaller, how exceedingly important to parent and teachers that they should give a right direction, at the earliest

> possible period, to the numerous tributaries of health and excellence![16]

In order to do this, contemporaries felt that they needed to fashion a whole array of habits and practices that would dam all of these "small streams" before they became the "Mississippi" of moral and physical disease. These practices, based on the concept of human nature outlined earlier, formed the "physical culture" that contemporaries stressed so much. In addition, Alcott and others called upon women—and especially mothers—to be well versed in anatomy, physiology, and the "laws of health" so that they might know the "organizing principles" of the human constitution and so steer its development in appropriate directions. Lack of knowledge in this department was seen as the cause of so many woes—physical and moral—to date.

In order to alleviate these woes, and to promote a truly self-governed people, physicians re-inscribed traditional sins as natural laws, natural laws that would surely have consequences if violated. Turning aside from threats of eternal damnation, reformers thought this appeal a more effective way of carrying out morality, of spreading a certain moral code. Edward Jarvis, a leading advocate for teaching anatomy and physiology in schools and the author of a popular textbook for this purpose, made explicit this connection between the natural laws to which physicians appealed and the moral culture they supported:

> The human body, . . . is left in the charge of man. He is appointed to take it as it comes from the hands of the Creator, and develop and exercise it, direct its actions, supply its wants, and govern all the appetites, according to the requirements of life. These conditions are exact and unyielding, and good or evil consequences are certain to follow their fulfillment or neglect. . . . We can have no health except so far as we obey the law.[17]

Yet physicians were not entirely confident that this message would be conveyed, not sure that people would recognize that the certain and necessary consequences that would result from any deviation from the proper moral and physical regimen would actually come to pass. This was in part due to the difficulty in demonstrating

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[16] Alcott, *The Laws of Health,* p. 326.

[17] Edward Jarvis, *Practical Physiology: For the Use of Schools and Families* (Philadelphia: Thomas, Cowperthwait, & Co., 1851), p. 362.

that disease or death actually did spring from the failure to observe the "laws of health" that physicians claimed were so vital not only to the self-governed life, but to any sort of a healthy life whatsoever. In discussing the vital importance of bathing daily in order to allow for the skin's "respiration," William Alcott displayed this concern that the lack of such direct evidence might make his readers skeptical of his claims.

> It is, however, true, that years sometimes intervene, before the evil consequences of dirtiness appear. The office of the vessels of the skin being interrupted, an increase of action is imposed on other parts, especially on those internal organs commonly called glands, which action is apt to settle into obstinate disease. Hence, at least when aided by other causes, often arise, in later life, after the source of the evil is forgotten, if it were ever suspected, rheumatism, scrofula, jaundice, and even consumption.[18]

It was to bring people to an understanding of this powerful influence of everyday physical habits that physicians and lay health reformers campaigned for the teaching of anatomy and physiology in schools, a campaign in which they were surprisingly successful.

One tactic they employed in this endeavor was to highlight the degree to which *all* parts of the human constitution were dependent upon proper health for their full development. As Charles Caldwell, professor at the Transylvania Medical School, argued, "Every change [that education] produces in those who are made the subject of it, [is] strictly physiological. This is as true of moral and intellectual, as of physical education." Yet he was careful to avoid any charge of irreligion:

> Let no one allege that this view of education involves materialism, or any principle, unfriendly to religion. . . . The entire subserviency of matter to mind is acknowledged in it; and that is all that the doctrine of spirituality can require. It must not claim to take from matter the rank and attributes conferred on it by its CREATOR.[19]

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[18] William A. Alcott, *The Young Mother, or Management of Children in Regard to Health* (Boston: George W. Light, 1842; ninth stereotype edition; originally published in 1836), p. 91.

[19] Charles Caldwell, *Thoughts on Physical Education: Being a Discourse Delivered to a Convention of Teachers in Lexington, KY, on the 6th & 7th of Nov. 1833* (Boston: Marsh, Capen & Lyon, 1834), p. 4.

This attempt to forward the view of the mind-body connection as the foundation for self-government while at the same time avoiding actual materialism or psychological reductionism pervaded the reform literature of the period, and the calls to "know thyself" through the study of anatomy and physiology were no exception. Calvin Cutter, a physician and physiology textbook author, stressed the *mutual* influence of the emotions and the physical system: "moral feelings exert a controlling influence over the functions of the muscular, digestive, and respiratory organs," and "an influence, perhaps, more powerful upon the nervous system."[20] Such a stance was directly linked to maintaining a role for free will and an active conscience, since by the nineteenth century the "moral sense" was generally thought to reside among the emotional faculties of human constitution. John Tarbell worked in a similar vein, sustaining the function of emotions in the physical economy.

> The dependence of the body upon the mind, the close intimacy of the spiritual with the immaterial, is in no instance more strikingly exhibited than when vehement passion takes possession of the soul. Falling heavily upon the brain, through that mysterious connection which God only understands, the dynamic, immaterial, yet overwhelming influence is transmitted through the nervous connection to the centre of circulation, and the heart *breaks*—literally. There are on record instances of an actual rupture, from powerful emotion, of the muscular walls of this organ's cavities, producing instant death. When the emotion is not of that overpowering nature which kills at once, but is permanent and corroding, it makes itself seen and felt in perverted functions, disordered nerves, languid circulation, and deranged digestion.[21]

To avoid such dangers, to maintain intellectual and moral well-being, one had to maintain physical health.

If self-government and moral agency were to be secured by balancing the three components of the human constitution, and this balance was to be achieved in large part by a physical regimen, then

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[20] Calvin Cutter, *A Treatise on Anatomy, Physiology, and Hygiene: Designed for Colleges, Academies, and Families* (Boston: Benjamin Mussey & Co., 1850), pp. 371–72.
[21] John A. Tarbell, *The Sources of Health and the Prevention of Disease; or, Mental and Physical Hygiene* (Boston: Otis Clapp, 1850), p. 139. Tarbell was a member of both the "regular" Massachusetts Medical Society and the Homeopathic National Institute.

the body became the site for morality. The physician then became the person to dispense not only medical prescriptions, but moral codes as well. Just as moral philosophy and the more general cultural discourse on morality took on an increasingly somatic cast during the nineteenth century, medical thought continued to place a premium on moral and religious values even as its practitioners stressed the themes of "science" and "rational practice." In an era marked by numerous experiments in the physiological state of the body in both health and disease, by an increase of medical schools aiming to give physicians an understanding of the "principles" underlying appropriate "practice," and by a struggle amongst "regular" physicians and members of alternative therapeutics for theoretical and popular hegemony, physicians endlessly argued that their current views of the body and its workings were based on "observation" and "experiment" as opposed to the "speculation" of previous generations. Philadelphia physician and medical professor Samuel Jackson expressed this sentiment when he stated in 1841 that "the era of speculation has just closed," and that physicians were now in "the era of science."[22]

But if self-government was attained by balancing the faculties, and this was done by following the laws of health, every individual needed both to know these "rules" for living and to understand the principles behind these rules. Reformers and educators frequently explained that, given the infinite variety of situations people might find themselves in, one needed to have the ability to apply the underlying principles of health and morality to new contexts—memorization of catechism was simply not enough.[23] This imperative was often heard in the course of a medical education, but extended as well into colleges, academies, and common schools. Hence the drive to add anatomy, physiology, and physical education to the country's core curriculum.

In an era characterized by tensions between the medical

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[22] Samuel Jackson, *Introductory Lecture to the Course of the Institutes of Medicine, In the University of Pennsylvania, For 1841–2* (Philadelphia: Merihew & Thompson, 1841), p. 10.

[23] On the shift from rules simply handed down to the call for independent knowledge of their foundation, see Charles E. Rosenberg, "Catechisms of Health: The Body in the Prebellum Classroom," *Bulletin of the History of Medicine,* 69 (1995): 175–197. For a study of a popular medical journal fulfilling this mandate, and some of its moral significance, see Thomas A. Horrocks, "'The Poor Man's Riches, The Rich Man's Bliss': Regimen, Reform, and the *Journal of Health,* 1829–1833," *Proceedings of the American Philosophical Society* 139 (1995): 115–34.

profession's attempt to establish its authority and regularize its practice, and mounting calls for the spread of education and the popularization of expertise, the commitment to disseminate the "laws of health" could work against efforts at professionalization. As with the dynamic between scientific means and moral ends, physicians preferred to point out the ultimate compatibility of a stronger medical profession and popular empowerment in the sphere of personal health. When they did come into conflict, however, the need to educate the people in an effort to promote self-government, moral behavior, and spiritual salvation generally triumphed over concerns about professional boundaries.[24]

At Geneva Medical College in upstate New York, Charles Coventry urged this goal upon his students. He noted that such an education would help "guard against quackery and empiricism." Having a basic knowledge of their own bodies, people would be better able to select the "true" physician when they needed medical attention.

> Teach men the functions of their own system, how admirable in design, how complicated in structure, and yet how beautifully adapted in every part to the performance of its own appropriate functions. Then ask them if they are willing to trust the correction of the derangements of this beautiful machine, to persons entirely ignorant of its several parts, when a single error may cost them their lives.

Coventry thus called upon his students to give "popular lectures on Anatomy, Physiology, and Hygiene," and to help establish the foundation for medically-based social reforms.[25]

In having his students "[s]trip the profession of mystery," Coventry was also fulfilling the divine plan. In teaching his students (and his students then teaching others) "the structure and formation of their own system, the laws by which it is governed, and the influence of surrounding agents," he would further have every person grasp that "the laws established by Creative Wisdom can not be violated with impunity."[26] A stronger medical profession was able

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[24] On how physicians negotiated these boundaries, see Lamar Riley Murphy, *Enter the Physician: The Transformation of Domestic Medicine, 1760–1860* (Tuscaloosa: The University of Alabama Press, 1991), pp. 140–85.

[25] C.B. Coventry, *Address to the Graduates of the Medical Institution of Geneva College, Delivered January 25th, 1842* (Utica: Democrat Office, 1842), p. 14.

[26] C.B. Coventry, *A Lecture, Introductory to the Course on Obstetrics in Geneva Medical College, Session of 1843–44* (Geneva: Ira Merrell, 1843), p. 11.

to better serve the people, and the systematic laws of health it taught furthered more sacred ends.

Far from fulfilling the traditional narrative of science displacing speculation, religion, and cultural biases—a narrative historians of medicine first invoked in their accounts of the discipline, and have since relocated into the voices of their subjects—early nineteenth-century American medical practice often re-inscribed the traditional values of Protestantism and moral norms in its new "observation"-based model. It is important to note, however, that just as the older model of science dispelling the errors of religion and cultural biases is clearly flawed, neither is it the case that the medical ideas that emerged in this period somehow failed to be "real science" or "real medicine." It was simply not a matter of "science versus religion." Though it was the understanding of human nature that emerged in the early nineteenth century which provided some of the moral and popularizing imperatives that stood in dynamic tension with some of the claims to scientific methodology and professional authority, it was also this mounting discourse on the moral significance of the body that furnished the framework for synthesizing these diverse goals under the rubric of promoting the central value of self-government.

DEPARTMENT OF HISTORY
JOHNS HOPKINS UNIVERSITY
BALTIMORE, MD 21218

Factory Work for Doctors: The Early Years of the Section on Industrial Medicine and Public Health of the College of Physicians of Philadelphia[1]

Jennifer L. Gunn

In the 1910s, Dr. Alice Hamilton investigated the dangerous trades, American readers flinched at images of the disfigurement of match girls with phossy jaw, and workers struck against industrial sweatshop conditions that sapped their health and endangered their lives. While Progressive Era reformers demanded relief in muckraking journals and state legislatures, physicians responded by developing a subspecialty devoted to industrial medicine.[2] In Philadelphia, Dr. James Anders attempted to advance industrial medicine by urging the College of Physicians of Philadelphia to establish a Section on Industrial Medicine.

The story we glean from the Section's history is different from the well-documented accounts of Alice Hamilton's investigations, or from organized labor's struggle for safe working conditions. It focuses instead on local doctors tending to workers in factories and workplaces on a daily basis. The Section's records help to fill a gap in the historical

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[1] I would like to thank the Francis C. Wood Institute for the History of Medicine for a resident research fellowship which enabled me to investigate the early years of the College of Physicians' Committee on Public Health and Industrial Medicine. College librarians Jack Eckert, Kevin Crawford, John Parker, and Charles Greifenstein were particularly helpful. I am grateful to Janet Golden, Steven Peitzman, Hans Pols, Charles Rosenberg, Shari Rudavsky, Lynne Snyder, Janet Tighe, Elizabeth Toon, and Sarah Tracy for reading portions of this paper.

[2] The field now known as occupational medicine was initially called industrial medicine. Industrial medicine generally covered wage earners in any kind of business enterprise, from department stores and insurance companies to mines and manufactories. I use the terms industrial medicine and occupational medicine interchangeably.

scholarship, which has emphasized the political negotiations around occupational disease in the United States and neglected the development of occupational medicine as a clinical specialty.[3]

Industrial medicine in the century's early decades was as much, if not more, about the practice of medicine in an industrial setting as it was about the etiology of work-related disease. It concerned the role of doctors and private practice in providing medical services for workers. Although ostensibly an integral part of occupational medicine, industrial hygiene and toxicology were often relegated to the public health sphere, perpetuating the division between curative and preventive medicine. The discussions which took place in the College's Section on Industrial Medicine in the 1920s reveal occupational medicine to be a kind of factory work for doctors. Local physicians weighed different forms of practice, compensation, and their own need to earn a living against the credo of scientific and professional autonomy in the context of a rapidly changing medical marketplace. The practices that emerged corroborate George Rosen's observation that organized medicine's ideal of a free market of equal, independent practitioners "never entirely coincided with the circumstances in which physicians actually worked."[4] Philadelphia's industrial practitioners wrestled simultaneously with larger issues affecting the entire medical profession: changing sites and forms of practice, and the increasing involvement of the state and corporations (especially insurance companies and large employers) in the provision of medical care.[5] Industrial medicine in Philadelphia, like the Section which sought to guide it, was shaped by complex political and economic forces.

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[3] See, for example, David Rosner and Gerald Markowitz, *Deadly Dust: Silicosis and the Politics of Occupational Disease in Twentieth-Century America* (Princeton: Princeton University Press, 1991); Barbara Sicherman, *Alice Hamilton: A Life in Letters* (Cambridge, MA: Harvard University Press, 1984); Martin Cherniack, *The Hawk's Nest Incident* (New Haven: Yale University Press, 1986); and Christopher Sellers, "The Public Health Service's Office of Industrial Hygiene and the Transformation of Industrial Medicine," *Bulletin of the History of Medicine* 65 (1991): 42–73.

[4] George Rosen, *The Structure of American Medical Practice 1875–1941,* Charles Rosenberg, ed. (Philadelphia: University of Pennsylvania Press, 1983), p. 96.

[5] The author of the medical section of President Hoover's survey of social trends noted that many health professionals failed to recognize the "marked growth in participation by federal, state and local governments in health and medical practice" since the turn of the century. Harry H. Moore, "Health and Medical Practice," in President's Research Committee on Social Trends, *Recent Social Trends in the United States* (New York: McGraw-Hill, 1933), p. 1092.

The Origins of the Section

James Anders, then Professor of Clinical Medicine at the Medico-Chirurgical College, was the moving force behind the College establishing, in 1913, a Committee on Public Health and Preventive Medicine to report to and advise it on public health matters.[6] The College, once sought after as an adviser to governments, had lapsed into inertia with regard to public medicine.[7] As a consequence, an array of other public and private organizations—less expert, Anders implied—had usurped the College's earlier role as guardian of Philadelphia's hygiene. Dr. Alexander Abbott, a member of the city's Board of Health in 1912, concurred, noting with regret that too many of these agencies were dominated by laymen; medical men should take the lead in preventive medicine.[8] Four years later, Anders, again, foresaw that physicians were in danger of losing control over another important area to other scientific professionals and social reformers—the emerging field of occupational safety and health. He proposed that the College create a new specialty section on industrial medicine.

At first Anders conceived a section on industrial medicine alone, but he amended his plan to combine industrial medicine and public health in accordance with the "up-to-date trend in modern medicine."[9] The new section reflected the increased attention paid to industrial accidents and diseases in the 1910s, culminating by 1915 in the passage of workmen's compensation laws in all of the industrialized states.[10] The life of the Section often reflected the eco-

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[6] George E. Pfahler, "Memoir of Dr. James M. Anders," *Transactions of the College of Physicians of Philadelphia* [hereafter *Trans.*], 4th ser., 4 (1936–1937): xvii. James Anders, "The College of Physicians and the Public Health," *Trans.*, 3rd ser., 34 (1912): 37–43.

[7] Whitfield J. Bell, Jr., *The College of Physicians of Philadelphia: A Bicentennial History* (Canton, MA: Science History Publications, 1987).

[8] Alexander Abbott discussing James M. Anders, "The College of Physicians and the Public Health," p. 37. The President of the College of Physicians of Philadelphia (hereafter CPP), George DeSchweinitz, commented more pragmatically that the College's role in public health affairs had declined since the formation and increased activism of the state and county medical societies—hardly lay people.

[9] James Anders to William J. Taylor, 5 March 1917. College of Physicians of Philadelphia, Presidential Papers, Committee on Public Health and Preventive Medicine, Library of the College of Physicians of Philadelphia, hereafter cited as CPP.

[10] W.L. Estes, "Compensation Laws the Potent Factors in the Prevention and Treatment of Occupational Diseases and Industrial Accident," *Trans.*, 3rd ser., 39 (1917): 443.

nomic fortunes and debates of the larger Philadelphia society.[11] Its founding coincided with a wartime industrial boom in the city. The Hog Island shipyard, the largest in the world, was built in only six months. It was an example of the speed of expanding production in early twentieth-century Philadelphia.[12] As the scale of local industry continued to grow and the threat of war added to the pace of production and competition for labor, maintaining workers' health and reducing time lost to crippling accidents became a pressing economic concern to industrialists.[13]

If productivity arguments were not sufficiently convincing, workmen's compensation laws gave employers financial incentive to more actively protect workers. Large plants, which had the advantage of economies of scale, took the lead in establishing industrial medical services. And as industrial concentration increased—companies with over 1,000 workers employed 24 percent of the national workforce in 1923—the proportion of the population receiving some medical attention at work also increased. A 1923 National Industrial Conference Board survey of 501 businesses counted 265 full-time physicians, 356 part-time physicians, 773 doctors on call, and 1,700 other medical personnel employed by these establishments.[14] "The subject of industrial medicine and surgery is one of professional responsibility, in great part at least," Anders wrote, "hence it is altogether fitting that the College of Physicians should have created a new section having for its principal object the tilling of this field."[15]

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[11] The Section folded in 1971. In its waning years, it sponsored a number of programs on air pollution—an issue which had been of persistent interest since the beginning of the Section. But by the 1970s, the Section's significance to debates about pollution was clearly overshadowed by the broad-based environmental movement.

[12] Philip Scranton and Walter Licht, *Work Sights: Industrial Philadelphia, 1890–1950* (Philadelphia: Temple University Press, 1986), p. 229.

[13] The 1929 *Philadelphia Hospital and Health Survey* noted that high death rates from accidents was one of the region's primary health problems (p. 25). "The ratio of accidents as cause of crippling among adults appears to be unusually high in Philadelphia." (p. 329). Haven Emerson, ed. *Philadelphia Hospital and Health Survey* (Philadelphia: Philadelphia Hospital and Health Survey Committee, 1930) [hereafter abbreviated as *PH&HS*].

[14] In 1925, United States Steel had 233 doctors and 117 "outside surgeons" on salary in addition to 251 nurses, 62 visiting nurses, and 40 sanitary inspectors to serve a worker population of about 500,000. Harry H. Moore, "Health and Medical Practice," pp. 1077–1078; and Leo Wolman and Gustav Peck, "Labor Groups in the Social Structure," in President's Research Committee on Social Trends, *Recent Social Trends in the United States* (New York: McGraw-Hill, 1933), p. 812. Manufacturing employment increased 32 percent in the U.S. between 1910–1930.

[15] James Anders, "The Scope and Aims of the New Section on Industrial Medicine and Public Health," *Trans.*, 3rd ser., 39 (1917): 462.

The College's attention to industrial medicine put it at the forefront of efforts to professionalize occupational medicine as a subspecialty. The Section and a parallel committee at the New York Academy of Medicine were formed only a year after the founding of the American Association of Industrial Physicians and Surgeons. David Edsall established the first Department of Industrial Medicine at Harvard in 1918, which the University of Pennsylvania swiftly followed with a clinic for research in industrial medicine. The first professional journal for the field, the *Journal of Industrial Hygiene*, was founded in 1919, as was the United States Public Health Service's Office of Industrial Hygiene and Sanitation. In 1922, the American Medical Association assigned responsibility for industrial medicine to its section on public health.[16]

Anders hoped "that the prominent experts in hygiene and sanitation of this city will become active spirits in the deliberations of this section."[17] The officers and most vocal members of the Section hailed from Philadelphia's public health community. They included members of the faculty of the University of Pennsylvania's Institute of Hygiene and Public Health (Alexander Abbott, Henry F. Smyth, Seneca Egbert, and David Bergey), and physicians who served the public welfare in some civic capacity, such as George Woodward, an early member of the Board of Health and long-time activist on behalf of improved water, housing, and government.[18] Walter Cornell, chief of medical inspection for the Philadelphia School District, and pathologist Courtland Y. White, who directed the Health Department's bacteriological laboratory, served terms as officers of the Section.

In its early years, the Section had only a few company doctors. The most prominent was George Morris Piersol, a faculty member at the Graduate School of Medicine of the University of Pennsylvania. Piersol served as a consultant to the Bell Telephone Company, but the daily supervision of the telephone girls' health was in the hands of another doctor who was not sufficiently august to be a Fellow of the College. However, Charles Beatty Worden, whose qualifications for the Fellowship included being "born a gentleman," oversaw medical services for the 6,000 employees of one of Philadelphia's large department stores.[19] These two doctors were joined in the Section in 1922 by Sidney Repplier, who directed the

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[16] Sellers, "Office of Industrial Hygiene," p. 50.
[17] Anders, "Scope and Aims," p. 465.
[18] William McClenahan, "Memoir of George Woodward (1863–1952)" *Trans.*, 4th ser., 21 (1953–54): 27–30.
[19] Charles B. Worden, Fellows File, CPP. Worden was a Fellow from 1903 until 1932.

Curtis Clinic for the more than 4,000 employees of the Curtis Publishing Company.[20] The majority of Section members through the mid-1930s were not full-time company doctors, but rather specialists in private practice, often with faculty appointments at one of the medical schools. Whether the relatively small number of company doctors in the Section in this early period reflected snobbery towards industrial practitioners, the College's traditional bias towards academic medicine, or the newness of occupational medicine as a specialty cannot be determined from the records.[21]

The fact that few Fellows appear to have practiced in an industrial setting does not mean, however, that they had no contact with workers, industrial accidents, or occupational diseases. A significant number of Fellows and Section members were clinical faculty members of Philadelphia's one post-graduate and five undergraduate medical schools. In this industrial port city, working class patients—even those with some means—filled the beds, operating rooms, and outpatient clinics of the teaching hospitals. As the 1929 *Philadelphia Hospital and Health Survey* discovered, many "industrious" workers could not afford to pay for medical care.[22] They remained at least partially dependent upon institutional charity.[23] These patients became the "clinical material" for the elite specialists and professors in Philadelphia's medical schools.

As a group of doctors in which specialists predominated, the Fellows also stood to gain referrals for their private practices from company doctors. The involvement with working class patients no doubt

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[20] Earl B. Morgan and S.J. Repplier, "The Health Service Side of Personnel Management," *Industrial Management* 62 (1921): 43–47. S.J. Repplier, Fellows File, CPP.

[21] In the 1960s—the Section's last years—the letterheads of the Section officers indicate that a number of them were company doctors. Records of the Section on Public Health, Preventive and Industrial Medicine, CPP. The Philadelphia County Medical Society (PCMS) also started an industrial medicine committee about the same time as the College. PCMS membership was essentially open to any physician, and the organization was more overtly political in its active representation of physician interests. It is likely that many more company doctors were represented in the ranks of the PCMS.

[22] The same observation had been made almost a century earlier by staff members at the Philadelphia Northern Dispensary. Charles E. Rosenberg, "Social Class and Medical Care in Nineteenth-Century America: The Rise and Fall of the Dispensary," in Gert Brieger, ed., *Theory and Practice in American Medicine* (New York: Science History Publications, 1976), p. 261.

[23] The Philadelphia Hospital and Health Survey rather naively urged that physicians, organized labor, and the Chamber of Commerce should band together to achieve the coverage of industrial diseases under workmen's compensation laws. Emerson, ed., *PH&HS,* p. 549.

had a reciprocal effect which carried some doctors beyond self-interest. Fellow Ward Brinton's interest in the anti-tuberculosis movement and subsequently in the Section was reportedly kindled by the health problems of the textile workers he saw in his private practice, and it is likely that other Fellows had similar experiences.[24]

Tuberculosis represented an essential bridge between public health and industrial medicine, and was an important rationale for the Section. As the primary cause of death at the turn of the century, tuberculosis was a common visitor in many physicians' practices. It was an endemic, infectious disease without much effective treatment—one with strong correlations to factory work and poor socio-economic conditions. As such, it was a public health concern. A significant contingent of Section stalwarts were physicians involved in tuberculosis work. Many of them, such as Frank Craig, Charles Hatfield, and H.R.M. Landis, worked at the Henry Phipps Institute or local sanatoria.

At one of the first Section meetings, Landis discussed young female cigar workers with tuberculosis:

> The girls received low wages and lived under bad sanitary conditions. Examination of the cigar factory showed it to be beautifully lighted, up to date in every respect and absolutely free of dust. This is I think a very logical explanation of the high death rate from tuberculosis charged to dust in many of the industries.[25]

T. Grier Miller offered a slightly more balanced perspective, acknowledging the dynamic relationship of "poor [factory] hygiene and smaller wages, with consequent poor living conditions" as the cause of high mortality from tuberculosis.[26]

At the same Section meeting, Frederick Hoffmann of the Prudential Life Insurance Company noted that the connection between in-

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[24] Esther Gaskins Price, *Pennsylvania Pioneers Against Tuberculosis* (New York: National Tuberculosis Association, 1952), pp. 137, 197.

[25] H.R.M. Landis, discussion of T. Grier Miller and Henry F. Smyth, "The Dust Hazard in Certain Industries," *Trans.*, 3rd ser., 39 (1917): 399. Landis had what, in retrospect, seems a very odd understanding of the relationship of industrial dust and tuberculosis. "Everybody at the present time believes that tuberculosis is healed by formation of fibroid tissue. It is perfectly obvious to my mind that the lung already fibroid [from industrial dust damage] is going to be more resistant, and even should the lung become tuberculous the disease runs a retarded course." He believed that tuberculosis was uncommon among coal miners for this reason and that cement workers got the disease solely from poor living conditions. Landis, "Pulmonary Changes Produced by the Inhalation of Organic Dust," *Trans.*, 3rd ser., 39 (1917): 458.

[26] Miller and Smyth, "The Dust Hazard," p. 400.

dustrial dust and tuberculosis had attracted little medical attention up to that time. While the specific mechanisms of the relationship may not have been well researched or understood, many physicians had observed higher rates of consumption among the working classes and in particular occupations.[27] Section officers James Anders, Frank Craig, Alexander Davisson, and Charles Hatfield were among the founding members of the National Tuberculosis Association in 1904, and Fellows Lawrence Flick, Solomon Solis-Cohen, and Wade Brinton had agitated for years against the social and economic conditions which bred tuberculosis.[28] Landis published an article on "Tuberculosis in the Workshop," and Brinton organized a joint meeting of the labor unions and the Pennsylvania Society for the Prevention of Tuberculosis, held at the College in 1908. From that meeting came a campaign for the enforcement of Pennsylvania's factory inspection laws. The campaign was directed against major factors understood to contribute to tuberculosis, such as child labor, and piecework in home sweatshops (saliva used in rolling cigars and moistening hems on garments was considered a major source of infection).[29]

A decade later, this same group of pioneers extended their interest into the Section on Industrial Medicine. Tuberculosis was emblematic of the "communicable diseases among persons exposed through method and environment while employed," a category which "practically embraces all the leading infective diseases."[30] Anders expected the Section would address the categorization of just such problematic diseases and look beyond simple environmental explanations to understand complex causal factors and the appropriate medical intervention. His expectations were rarely met. Although the Section heard a number of papers on tuberculosis and dust-related diseases throughout its first two decades, its energy was often directed to less theoretical and more pragmatic questions about physicians' roles in occupational medicine.

The first three Section meetings in 1917 had an average attendance of 38. By the mid-1920s, in the midst of the post-war recession that hit Philadelphia hard, attendance at the Section had fallen to an average of 27. The author of the Section's annual report in 1925 expressed the officers' regret at the Section's small attendance:

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[27] Frederick Hoffmann, "Some Theoretical and Practical Aspects of Industrial Medicine." *Trans.*, 3rd ser., 39 (1917): 423.
[28] Price, *Pennsylvania Pioneers*, p. 200.
[29] Ibid., pp. 286, 197.
[30] Anders, "Scope and Aims," p. 462.

> While they feel that it is partly due to the large number of other meetings being held, they yet feel that there is an apathy that is noticeable, on the part of the profession and the public, towards subjects that should be given thought and consideration.

Protecting workers' health may have been of less pressing interest when there was a labor surplus and fewer jobs for workers—or company doctors. Even when the Section brought in nationally prominent industrial disease expert Emery Hayhurst to speak on the "Value of Health Service in Industry," a paltry 20 people made up the audience—less than two-fifths of the Section membership. At the height of the Depression (1931), there was so little interest in the Section that it held no meetings and sent out no dues notices to its 31 nominal members. The Section did revive in the late 1930s, garnering an average attendance of 45. But as the effects of the Depression lingered in Philadelphia, the interest in workers' health and improving factory conditions also lagged. The Section devoted a larger proportion of its attention to general issues of public health, constitutionalism, and preventive medicine than to specifically industrial topics.[31]

Public Health and Industrial Hygiene

In coupling industrial medicine with public health, the College was following a pattern characteristic of the history of American interest in occupational disease. It was also representative of the division between public health and medicine in the 1920s. Like public health, industrial medicine emphasized prophylaxis over therapeutics. The goal of the early investigations of the dangerous trades was to prevent job-related accidents and illnesses by regulating laborers' exposure to hazardous working conditions. By the 1910s, the apparent success of public health measures such as improved municipal sanitation and regulation of the milk and water supplies in

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[31] "Annual Reports of the Section on Public Health and Industrial Medicine" for 1923 to 1925, CPP. In 1923, the Section voted to reverse the order of the name of the committee to put public health first. The "large number of other meetings being held" in 1925 may have referred to those other lay-dominated, voluntary reform organizations Alexander Abbott had so lamented in 1917, such as the Philadelphia Health Council and Tuberculosis Committee and the Babies Milk Association. Most Fellows were also members of the Philadelphia County Medical Society, whose political activism increasingly surpassed that of the more elite, but more lethargic, College in the 1920s. The Section also suffered the loss through death in the mid-1930s of many of its early members, including Anders, Landis, and Egbert.

lowering death rates created both intellectual and economic tensions between public health and general medical practice. An American Medical Association spokesman alleged that doctors' incomes suffered as the incidence of disease declined. In self-defense, physicians adopted elements of preventive medicine—most notably, the routine screening physical exam.[32] Industrial doctors were among the most successful at promoting the physical exam as the centerpiece of their repertoire of diagnostic skills and medical expertise.[33] However, in spite of the rhetorical embrace of prevention and the adoption of preventive techniques such as vaccination and periodic exams, medicine remained ensconced in individual therapeutics while public health retained the responsibility for mass prevention and environmental measures.

From the affiliation of the Section's speakers and their topics, we derive a sense of how industrial medicine straddled the divide. Public Health Service official Anthony J. Lanza and industrial toxicologist Henry F. Smyth gave several talks on industrial hygiene and occupational diseases, while company doctors Charles Worden, Franklin Buzby, and Mervyn Ross Taylor discussed industrial medical practice in large enterprises and the operation of industrial clinics.[34] Industrial hygiene fell within the camp of public health; the daily routine of

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[32] Cited in George Rosen, *Structure of American Medical Practice,* p. 57.

[33] The *Philadelphia Hospital and Health Survey* reported that there had been little organized work in Philadelphia to promote routine screening exams as a means of detecting and controlling chronic illness. Dr. George Pfahler's public speaking campaign to promote physicals collapsed due to lack of support. The College abruptly canceled its invitation to Dr. Eugene Fiske of the Life Extension Institute (LEI) to speak on the findings from the LEI's thousands of health examinations because of complaints that the LEI engaged in commercial behavior. Hospitals and clinics serving Philadelphia's industries and workers were the primary providers of annual physical exams. Emerson, *PH&HS,* pp. 769–770. In 1927, the Section was treated to a viewing of a film about the conduct of a physical exam titled "Who Laughs Last?" Annual Report of the Section on Public Health and Industrial Medicine, College of Physicians of Philadelphia, 1927, CPP.

[34] Anthony J. Lanza, "The Hazards of Metal Mining," *Trans.*, 3rd ser., 40 (1918): 270–274, and talk on Industrial Hygiene, Annual Report of the Section on Public Health and Industrial Medicine, College of Physicians of Philadelphia, 1925. (By 1932, Lanza had moved from the Public Health Service to become the Assistant Medical Director of the Metropolitan Life Insurance Company). Henry F. Smyth, "Volatile Solvent Hazards and How They May be Minimized," *Trans.*, 4th ser., 3 (1935–1936): 72–73. Charles Worden, "The Field of Industrial Medicine in a Large Industrial Corporation," *Trans.*, 3rd ser., 42 (1920): 376–383; Mervyn Ross Taylor, "A Plan of Industrial Clinics for Philadelphia," and B. Franklin Buzby, "Defects in 1500 Employees and How the Defects were Handled," *Trans.*, 3rd ser., 43 (1921): 329–335, 288–298.

company doctors in examining and treating sick or injured workers fell within the bounds of traditional medical practice.

Despite optimistic predictions that preventive medicine would come to dominate medical practice, prevention and treatment continued to be distinct strategies for health, as reflected in the polarization of medical professionals into separate groups with different loci of practice. Changes in the organization of medical services at this time—the expanding role of hospitals, specialties, and new technologies—reinforced this separation and fostered the development of occupational medicine as a subspecialty. External constraints—in particular, what employers wanted from company doctors—intersected medical politics to determine the nature of industrial practice.

As the Section talks reveal, in practical terms occupational medicine more closely resembled general practice than industrial hygiene or sanitation. But the field's origins tied it to public health on grounds other than its preventive approach. As Anders wrote in his *Transactions* article introducing the Section, industrial medicine and surgery had "only in the recent past been made the basis of extensive scientific inquiry in this country, chiefly by State and municipal authorities through bureaus and commissions."[35] The joining of industrial medicine to public health was in part a result of the involvement of the state in the earliest attempts to protect workers' health. Through state factory inspection laws in the late nineteenth century, governmental units assumed the authority to regulate health and sanitation in industry. Alice Hamilton's initial investigations of the lead industry were sponsored by the United States Bureau of Labor, Barbara Sicherman concluded, because physicians showed little interest in working conditions and the health of workers.[36] But, as Christopher Sellers has shown, responsibility for producing information about industrial hazards and disease gradually shifted to the U.S. Public Health Service [USPHS].[37] Related tasks, such as regulating industrial air pollution and the perishable consumer products of industry, fell to local health departments.[38]

The scale of industrial medicine, its concern "with the health and safety of a vast army of employees,"[39] similarly influenced its

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[35] Anders, "Scope and Aims," p. 461.
[36] Sicherman, *Alice Hamilton*, p. 159.
[37] Sellers, "Office of Industrial Hygiene," p. 43.
[38] Philadelphia air pollution and clean milk and water supplies were repeated topics of discussion over the life of the Section.
[39] Anders, "Scope and Aims," p. 462.

construction as an adjunct of public health. The "public" was an ambiguous and largely quantitative conception. The magnitude of the problem and the size of the population justified state involvement. Industrial medicine covered "a vast army" of workers, while "public health work deal[t] with the mass of the people. . . ."[40] Henry Smyth pointed out that

> The City Health Department that does not take an active interest in industrial health and the healthfulness of working conditions of a large part of the citizens of its city during 50% or more of their working hours is losing a wonderful opportunity of service and is in fact not living up to its obligations to protect the health of the citizens.[41]

Section speaker Ralph Goldsmith talked enthusiastically in 1924 about the potential of industrial medicine to fulfill "the ideal of effective health service on a large scale."[42] Occupational medicine offered an opportunity to experiment with new forms for providing medical services and health education to a large, captive population.

Workmen's Compensation and Physicians' Compensation

From the 1910s through the 1930s, the changes affecting the traditional organization of medical practice were the subject of constant, often heated, discussion among physicians. The Fellows of the College of Physicians of Philadelphia were not immune to this. The timing of this phenomenon, like the timing of the new interest in industrial medicine, was a function of developments in medicine such as the rise of scientific medicine and specialization, but also of structural changes in the way Americans worked and lived. European countries, whose industrial revolution and subsequent regulation of industrial working conditions preceded that of the United States by decades, developed programs of sickness insurance and state provision of medical services in the early twentieth century.[43] By 1917, compulsory health insurance legislation had been proposed in the United States. At that time, state and local govern-

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[40] Emerson, ed., *PH&HS*, p. 18.
[41] Ibid., p. 544.
[42] Ralph Goldsmith, "The Preservation of the General Health of Industrial Workers, *Trans.*, 3rd ser., 46 (1924): 749.
[43] Hoffmann, "Theoretical and Practical Aspects," p. 423. John H. W. Rhine, "Compulsory Health Insurance," *Trans.*, 3rd ser., 42 (1920): 410; and Gordon J. Saxon, "Objections to Compulsory Health Insurance," *Trans.*, 3rd ser., 42 (1920): 414–415.

ments, businesses, and physicians were actively negotiating the implementation of the more limited form of insurance for workers furnished by the workmen's compensation laws enacted between 1910 and 1915. Historian Rosemary Stevens has explained the movement for health insurance in the 1910s as "the product of two converging developments, the technological and the social."[44] The same large forces—the fragmentation of medicine into specialties based on new techniques and claims to special expertise, and the call from multiple constituencies for more rational, extensive, and equitable provision of medical care—framed the development of occupational medicine.

Workmen's compensation was the entering wedge for the establishment of a varied, complex array of forms of medical practice. In most states, it widened the opening for contract practice, capitation, and consideration of general health insurance—innovations the American Medical Association (AMA) had long opposed in favor of fee-for-service practice.[45] Doctors found opportunities as well as potential competition created by the new laws. Workmen's compensation provided payment for private doctors treating industrial accident cases. Insurance companies hired physicians to investigate and supervise the treatment of workers making accident claims, and some insurance companies went on to provide sickness insurance and even to establish their own clinics to treat policyholders and accident victims.[46] Perhaps most significantly, doctors were brought into plants

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[44] Rosemary Stevens, *American Medicine and the Public Interest* (New Haven: Yale University Press, 1971), pp. 136–137. Initially, compulsory health insurance had the support of the American Medical Association (AMA). But, according to historian Ronald Numbers, as the campaign dragged out, misleading predictions about doctor's incomes under insurance alienated practitioners, and anti-German nationalist currents (Germany had compulsory insurance) alienated the public. Ronald Numbers, "The Third Party: Health Insurance in America," in Morris Vogel and Charles Rosenberg, eds., *The Therapeutic Revolution: Essays in the Social History of American Medicine* (Philadelphia: University of Pennsylvania Press, 1979), pp. 177–200. Siding with the AMA in its turn against health insurance, the ever-conservative College of Physicians passed a resolution in 1921 opposing the compulsory health insurance proposal then before the Pennsylvania legislature. Committee on Public Hygiene of the College of Physicians of Philadlephia, Presidential Papers, CPP.

[45] In Pennsylvania, the 1915 Workmen's Compensation law capped physician fees at $25 medical, $75 surgical over 30 days. Later revisions of the act raised the maximum fee and lengthened the treatment period, but still amounted to a form of fee capitation.

[46] One of the tuberculosis patient case histories recited in the *Philadelphia Hospital and Health Survey* refers to the man being in the care of a physician from the Metropolitan Life Insurance Company under a contract which also provided nursing services. Emerson, ed., *PH&HS*, p. 186.

on a daily basis to oversee the health of working class patients—patients who previously received little regular medical care.

Workmen's compensation owed much to the confluence of rapid industrial development, urban migration from both rural America and Europe, and the patterns of disease and disability that emerged from the densely packed city neighborhoods and filthy, dangerous factories at the turn of the century. Philadelphia displayed all these conditions. Social reformers linked industrial reform to the general Progressive campaign for the rational, efficient organization of society. But to many employers, efficiency probably had less to do with social order and more to do with the bottom line: controlling costs and enhancing profitability. As W.L. Estes told the Section at one of its first meetings in 1917, employers didn't care about workers' health or comfort as long as there was a constant flow of immigrant labor "to renew the defections of the sick and injured employees." A few employers—adherents of the doctrine of welfare capitalism or old-fashioned paternalists like John B. Stetson—may have espoused greater productivity through protecting workers' health, but most were indifferent to such claims. Not until compensation laws made employers financially liable for workers' welfare, Estes noted, did many corporations implement safety measures or provide medical personnel to treat accidents and illness.[47]

Workmen's compensation legislation was a very narrow reform. It did not place health within the reach of the average American worker, nor was it intended to do so. Although injured workers were probably better off after the advent of compensation laws than they had been in earlier periods when liability laws left them at the mercy of employers, workmen's compensation primarily was intended to pressure employers (through financial disincentives) to reduce accidents, not to replace workers' lost wages.[48] The long-term effect of the laws was to protect employers against uncertainties of the political and legal climate by limiting workers' legal redress and capping compensation for accidents at a very low rate. Philadelphia physicians were specifically interested in this reform, however, because the 1915 Pennsylvania workmen's compensation law provided for payments to doctors treating injured workers.

It is hardly coincidence that the medical profession's discovery

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[47] W.L. Estes, "Compensation Laws," p. 440. Scranton and Licht, *Work Sights*, p. 166.
[48] Bureau of Medical Economics of the American Medical Association, *Medical Relations Under Workmen's Compensation* (Chicago: American Medical Association, 1933), p. 24.

and claims of responsibility for occupational health in the years just before World War I occurred simultaneously with the new laws. Workmen's compensation was also physicians's compensation—a new source of reliable income. That is not to say, however, that Pennsylvania physicians considered the payments under the law commensurate with the value of their skills. Among their peers, Fellows and Section speakers railed vocally against inadequate fees and called for an immediate revision of the Pennsylvania law. In his inaugural address to the Section, James Anders objected to both the treatment period and the maximum compensation afforded by the law. But he framed the medical profession's concern in altruistic terms, as a matter of "securing the adoption of effective laws to protect the interests of the vast horde of workmen concerned."[49] W.L. Estes was more adamant: he denounced the "altogether humiliating" $25 medical or $75 surgical fee cap as leading to "service [that] is as cheap as the payment is small." Such inadequate fees, Estes gloomily predicted, would wreck doctors' careers as up-to-date scientific practitioners, prolong patient suffering, and perhaps even lead to injured workers' permanent disability.[50]

Of the 16 papers presented before the Section in 1920, nine dealt with workmen's compensation or compulsory health insurance. Moses Behrend, a prominent thoracic surgeon and later president of both the county and state medical societies, attacked Pennsylvania's 1915 law for creating tensions between doctors and hospitals over who was entitled to the fee for a disabled worker hospitalized after his or her workplace accident. The law distinguished between patients at home and in the hospital and it was not clear whether the doctor's fee was covered in the case of hospital care.[51] Nineteen years later, Behrend again reported to the Section that even after the liberalization of the law in 1927, an interpretive legal decision had for a time denied doctors fees for services rendered to ward patients.[52]

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[49] Anders, "Scope and Aims," p. 464.

[50] Estes, "Compensation Laws," pp. 452–453.

[51] J. Gershon-Cohen, "Memoir of Moses Behrend." *Trans.*, 4th ser., 38 (1970–1971): 189–190. Moses Behrend, "Provisions of the Compensation Law for Paying the Surgeon's Fee," *Trans.*, 3rd ser., 42 (1920): 386–388.

[52] Moses Behrend, "Security Against Illness and Injury in the State of Pennsylvania Today." Paper read before the Section on Public Health, Preventive and Industrial Medicine of the College of Physicians of Philadelphia, 6 Feb. 1939. Typescript, CPP.

Ward patients usually paid the hospital on a sliding scale based on income; for some—true charity cases—the care was free. Doctors provided free care to ward patients in fulfillment of the conditions of their hospital privileges. In most hospitals, a patient with workmen's compensation would have been a partial-pay ward patient.

James Anders originally envisioned the Section as a body of leading medical experts eminently suited to the task of defining occupational diseases. But there is little evidence that the Section applied serious effort to determining what constituted an occupational disease. This failure may have been influenced by the central role of workmen's compensation in the evolution of industrial medicine. Initially, occupational diseases, as distinct from injuries incurred through workplace accidents, were not covered by most states' workmen's compensation laws. There was little legal incentive to study or attempt to prevent work-related diseases.

Pennsylvania passed an occupational disease law known as the "Lead Bill" in 1913, but this legislation covered only those industries where lead hazards had already been investigated and documented.[53] The law called for monthly examination of workers exposed to poisons in the course of their work and obligated physicians to remove workers with signs of lead poisoning from hazardous jobs. Under the Lead Bill, a doctor's actions to protect workers from lead exposure simultaneously had the potential to deprive them of their livelihood. The bill did not provide any compensation for the illnesses acquired on the job.[54] Sixteen years later, one of the major recommendations of the Philadelphia Hospital and Health Survey was that occupational diseases be included under the provisions of the Workmen's Compensation Act.[55] This was not achieved until 1938, when Pennsylvania became one of only 23 states that offered any compensation for occupational disease. Even then, nothing was paid for temporary or partial disability from a work-related illness, and corporate compliance appeared to be largely voluntary.[56]

The seemingly disproportionate attention the Section paid to compensation in industrial medicine was emblematic of the practical level at which physicians were struggling to find their way in a changing medical landscape. Private medical care was shifting from the home and physician's office to the hospital and the outpatient clinic, as well as to the factory. And the rules of hospital practice were changing. Until the mid-1910s, hospitals did not pay doctors (other than the chief resident). Physicians rendered service on the wards as an aspect of their privilege in using the hospital for educa-

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[53] Sicherman, *Alice Hamilton*, pp. 159, 177–179. One of the white lead factories Hamilton visited in 1911 was George D. Wetherill and Brother in Philadelphia.
[54] Alice Hamilton to Theodore Ahrens, 4 Dec. 1913. Quoted in Ibid., pp. 177–179.
[55] Emerson, ed., *PH&HS*, p. 1.
[56] Moses Behrend, "Security Against Illness."

tional purposes and for their own private patients. When hospitals existed mainly to serve the indigent, to do otherwise would have been an abrogation of the altruism that was part of physicians' status and professional identity. But as more and more middle class people went to hospitals for treatment in the 1920s, hospitals' economic relationships with doctors changed.[57] Barbara Bates reports that in 1916 Pennsylvania's White Haven Sanatorium started paying its visiting physicians in order to stabilize the staff and to create physician loyalty which could attract patients.[58] In a departure from the dispensary tradition, hospital outpatient clinics began instituting modest fees in the mid-1920s. "The hospital is no longer merely for charity, and therefore the doctors who give of their time and skill should not be expected to do it for nothing," Herman Allyn told the Section.[59]

Shifts in the sites of practice and patient populations necessitated a reconsideration of responsibility for medical costs. Francis Olcott Allen urged the Section in 1920 to recognize that

> [i]ndustrial medicine has taken our hospitals unaware and they are not yet adjusted to the new point of view. The dispensary is still looked upon as a purely charitable institution, but this branch of work is not charitable—it is social and economic, and industry is expected to carry its expense.[60]

Section member and Dean of the Graduate School of Medicine of the University of Pennsylvania George Meeker instructed the superintendent of the hospitals affiliated with the Graduate School on the distinction between public and private patients in 1925. Public patients paid "from nothing to three dollars per day" and were "not subject to fees for professional services." Private patients paid "four dollars or more per day," auxiliary charges (such as lab fees), and physicians' bills. Meeker went into great detail about the classification of industrial patients and we see in his reasoning an attempt to move workers beyond the charity caseload and to broaden the income base of medical institutions.

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[57] Rosen, *Structure of American Medical Practice,* p. 49.

[58] Barbara Bates, *Bargaining for Life* (Philadelphia: University of Pennsylvania Press, 1992), p. 282.

[59] Herman B. Allyn, "Provisions in the Workmen's Compensation Act of 1919 for Paying Hospitals." *Trans.*, 3rd ser., 42 (1920): 385.

[60] Francis Olcott Allen, Jr., "The Hospital in Modern Industry: Dispensary Determination of the Physical Ability of Employees." *Trans.*, 3rd ser., 42 (1920): 450–451.

> Industrial, compensation and U.S.V.B. [U.S. Veteran's Bureau] cases are to be treated as private patients, located in wards at the four dollar and auxiliary charges rates. In the cases of industrial and compensation cases the members of the major hospital staff to whom they are referred may collect fees from employers or insurance companies if they are able to do so. Under our contract with the U.S.V.B., staff chiefs would be unable to collect fees from the government . . . The herein arrangements do not, at least at present, affect the arrangements now maintaining in the cases of Baldwin [Locomotive Co.] patients who have the status of preferred public ward patients. It would be desirable if we could make arrangements with Baldwin's to have them put on the basis of [workmens'] compensation cases.[61]

Industrial medical practice represented new inroads in traditional medical relationships, eroding the concept of freedom of choice and of the privacy of the doctor-patient relationship. As historian Angela Nugent has astutely observed, under workmen's compensation laws, the results of pre-employment physicals and accident-related medical examinations became the property of the company, legally open to the courts.[62] The AMA harshly criticized the loss of both company doctors' professional autonomy and workers' right to choose their own physician under these circumstances. A doctor working for an employer, the AMA's Bureau of Health Economics argued, was forced to relate to patients on the basis of their economic status as workers; a company doctor who wanted to keep his job treated a patient with an eye to the employer's interests in reducing compensation costs and lost time.

> He must bend his scientific judgments to his economic interests as a very condition of survival, and he will be the more strenuous and sincere in so doing the more he becomes unconscious of these influences.[63]

In keeping with the corporate tenor of post-WWI American culture, the AMA's basic opposition to occupational medicine was

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[61] George Meeker to W.W. McNeary, 23 December 1924. Graduate School of Medicine Records, University of Pennsylvania Archives. Meeker noted that private patients who only paid $4 per day were private *ward* patients, but were entitled to a better diet and more generous visiting privileges than the public ward patients.
[62] Angela Nugent, "Fit for Work," *Bulletin of the History of Medicine* 57 (1983): 590.
[63] Bureau of Medical Economics of the American Medical Association, *Medical Relations Under Workmen's Compensation*, p. 140.

couched in business rather than clinical or ethical terms. Company doctors exemplified a system of "compulsory patronage" which amounted to "unfair competition" and a form of the dreaded "contract practice." The author of the AMA's monograph on workmen's compensation argued that commercial activities, such as fee-splitting and contracting with employers and insurance companies for a volume of work, could not be limited to industrial practice but would spread to (and undermine) all areas of medicine.[64]

"Contract practice" was historically a loaded term.[65] To the AMA, it symbolized the threats to physicians' incomes and professional prerogatives that the AMA perceived in group practice and compulsory health insurance proposals. All seemed first steps in the direction of socialized medicine. Contract practice did not suggest the image of the altruistic, objective professional; rather, it bore the taint of commercialism and quackery that the proponents of scientific medicine in the twentieth century were striving assiduously to avoid. The acceptability of salarying physicians often seemed, however, to depend upon who was paying the salary. Medical institutions, such as Pennsylvania Hospital and the University of Pennsylvania School of Medicine, were introducing full-time salaried positions for clinical staff and faculty in this period. When a medical or philanthropic organization was the employer, there was no consequent stigma of commercialism, of being an employee rather than an autonomous professional.[66] By 1929, 15 percent of American physicians were paid on a salary as opposed to a fee-for-service basis.[67]

For all the AMA's abhorrence, forms of contract practice were widespread and obviously not as distasteful to physicians in Philadelphia as to their national professional organization. George Rosen has pointed to the AMA's repeated need to pass anti-contract practice resolutions in the nineteenth century as an indication of how widespread such practice remained.[68] For many doctors, con-

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[64] Ibid.

[65] In the nineteenth century, the practice of fraternal organizations hiring doctors to care for its members—an early form of group health insurance—was considered contract practice and repeatedly condemned by the AMA. The medical organization charged that lodge doctors could be bought, provided inferior care, and undermined their fellow practitioners. Rosen, *The Structure of American Medical Practice,* pp. 98–99.

[66] By 1929, Pennsylvania Hospital had salaried physicians in its pay clinic, surgical compensation case clinic, and two other outpatient services. Emerson, ed., *PH&HS*, p. 718.

[67] Moore, "Health and Medical Practice," p. 1075.

[68] Rosen, *Structure of American Medical Practice,* pp. 98–99.

tract work was probably an important part of their regular incomes. In 1929, for example, the Philadelphia Department of Health employed 111 physicians and dentists, but only two were full-time. The remaining 109 were, in essence, contract workers selling their skills to the health department on a part-time basis for a negotiated price. Another 74 physicians worked three hours a day for the Philadelphia Public Schools under the direction of Section member Walter Cornell, inspecting school children for medical defects.[69] A Public Health Service survey in 1919 found that one half-hour of daily work for a small factory could net physicians an income of $900 per year, a significant figure at a time when the average family doctor made less than $2,000 a year.[70]

Part-time work was a common pattern for industrial doctors according to Fellow Henry F. Smyth's industrial surveys. Only the largest companies with thousands of employees had full-time medical service. More typical was a small Philadelphia tannery which hired a doctor to inspect its workers each morning for signs of incipient anthrax (an occupational hazard of handling infected hides).[71]

Many of the Fellows had firsthand experience with the rapid development of industrial medicine into a source of profit for local practitioners and institutions—what contemporary health economists would label a profit center. Anders, Egbert, Peirsol and others were affiliated with two teaching hospitals whose fortunes rose and fell in rhythm with their industrial practices in the mid-1920s. The Polyclinic Hospital established an industrial clinic in 1924 for ambulatory industrial patients who had workmen's compensation or other insurance. The Hospital's annual report for that year credited the new industrial clinic and the imposition of outpatient fees with the institution's positive cash balance for the year. At the same time, income declined $12,000 at the Medico-Chirurgical Hospital due to decreased attendance at the hospital's dispensary, "occasioned by

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[69] Emerson, ed., *PH&HS,* p. 15. Edwin C. Broome, "Health Work in the Public Schools," *Trans.*, 3rd ser., 45 (1923): 124.

[70] Nugent, "Fit for Work," p. 582; Ronald Numbers, "The Third Party: Health Insurance in America," p. 179. Harry Moore reported in *Recent Social Trends* that the incomes of many practitioners were "precarious, uncertain, and irregular." Of 121,000 physicians in private practice in 1929, 53 percent took home less than $4,000 a year—only twice the amount considered to be the absolute minimal standard of living in the United States at that time. Moore, "Health and Medical Practice," pp. 1104–1105.

[71] Emerson, ed., *PH&HS,* p. 536.

inactivity at one of the large industrial plants with which the Hospital has negotiated a contract." In one month, industrial surgery at Medico-Chirurgical fell from 843 to 199 cases and remained at that level.[72] The plant was probably the Baldwin Locomotive Works. In the mid-1920s, Baldwin, which had at one time employed 15,000 workers, faced a sudden drop in the demand for steam locomotives and by 1928 had stopped all production within the City of Philadelphia.[73] Industrial medicine—at least the business of repairing workers—was profitable, but, like any other enterprise, it was vulnerable to local economic conditions and swings of the business cycle. Bell Telephone's doctor, Mervyn Ross Taylor, noted in 1921 that "in the present time of industrial depression and comparatively small payrolls percentages of accidents are apt to be low. . . . "[74]

As Charles McIntire perceptively observed in his aptly titled 1917 paper, "Science and Shekels," the problem was not contract practice *per se*, but the abuses allowed to exist because of organized medicine's universal denunciation of the practice.[75] Blanket condemnation meant a lost opportunity to pragmatically regulate contract work for the benefit of the profession. Contract practice was a *fait accompli*, acceptable to most physicians in a variety of forms. The Section papers indicate that the objectionable cases often involved corporate practices aimed at driving down or controlling the cost of physicians' services. For example, Estes reported that as early as 1917 fewer than 12 insurance companies controlled the bulk of the workmen's compensation business in Pennsylvania. The law required that a doctor examine each industrial accident victim and the insurance companies used their market power to bargain for the lowest cost—and, likely, the most compliant—doctor. Those physicians excluded naturally resented the insurance companies'

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[72] "Report of the Hospitals of the Graduate School of Medicine, University of Pennsylvania, 1924–1925," *University of Pennsylvania Bulletin,* p. 29. University of Pennsylvania Archives. The Polyclinic and Med-Chi Hospitals merged to become the Graduate Hospital of the University of Pennsylvania in 1927.

[73] Scranton and Licht, *Work Sights*, p. 191.

[74] Taylor, "A Plan of Industrial Clinics," p. 332.

[75] Charles McIntire, "Science and Shekels: A Sociologic Excursus," *Trans.*, 3rd ser., 39 (1917): 466–475.

[76] Estes, "Compensation Laws," pp. 451–452. By 1939, the Pennsylvania Workmen's Compensation law had been revised to provide a small fee for a second opinion from the victim's family physician if the injured person was not satisfied with the physician chosen by the company or insurance company. Behrend, "Security Against Illness."

collusion to undermine medical fees and concentrate this work among a few doctors.[76]

McIntire urged the Section members to recognize that a confluence of forces—including the expansion of medical science, specialization, and preventive medicine, as well as social welfare legislation—was ineradicably altering the doctor-patient relationship. If doctors did not adapt to the changes, they were in danger of falling into the trap of pursuing fees rather than science or their patients' welfare. In the ensuing discussion Dr. Edwin Cooke and Dr. William Higbee (later chairman of the Section) expressed their view that price fixing—a technique borrowed from the commercial world—was the appropriate response to these challenges to physicians' incomes and autonomy. Ironically, their rationale resonated with the individualistic philosophy of a rapidly disappearing era of medicine: "The higher the fee and the more dignity displayed in asking for it the greater the confidence reposed in the individual professional man."[77]

The absence in the Section of the kind of attacks on company doctors made by the AMA and reported by historians is notable.[78] The Philadelphia company doctors who spoke to the Section took great pains to assure their colleagues of their desire to avoid competition with local physicians. Taylor's plan for a geographic network of industrial clinics

> . . . aim[ed] to avoid the conflict or competition with the local practitioners restricting the features of the clinics in all ambulatory cases to emergency surgical treatment only and diagnostic work; and reporting the physical findings of the sick employee to the private physician and cooperating with him in means of treatment, etc.[79]

Charles Worden's clinic in a large mercantile establishment received 2,500 visits a month from employees (not including physical ex-

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[77] Discussion of McIntire, "Science and Shekels," p. 474.

[78] Paul Starr, *The Social Transformation of American Medicine* (New York: Basic Books, 1982), p. 203. It is probable that the elite Fellows felt less direct competition with company doctors than neighborhood general practitioners felt. The discussions of the Philadelphia County Medical Society's Industrial Medicine Committee might reveal a different story.

[79] Taylor, "A Plan of Industrial Clinics," p. 335. Later, in 1926, the Philadelphia Health Council and Tuberculosis Committee established industrial hygiene units (clinics) organized on a geographic basis to serve 20 small plants. Emerson, ed., *PH&HS*, pp. 542–544.

ams), but he depicted the clinic's approach as "first diagnosis" rather than "first aid." If an employee was too sick to stay at work, she or he was referred to his family physician.[80] The 1924 and 1929 surveys of industrial medical service explicitly discouraged company doctors from treating family members, and encouraged plant physicians to cooperate with family physicians by inviting them in to see the conditions of the plant and notifying them when a worker was sent home sick.[81] Such practices, if consistently followed, must have gone a long way towards reducing the hostility towards industrial medical service as "unfair competition."

But the evidence raises another possible interpretation. Worden's large department store ran dental and ophthalmological clinics as well as seeing more than one-third of the company's 6,000 workers in its dispensary every month. It suggests that the workplace medical service was offering much more extensive care than "first diagnosis." Sidney Repplier wanted the Curtis Publishing Company's medical division to "try to be the 'family doctor' of our employees while under our roof."[82] However, it is not clear that this care represented real competition for family physicians. Many working class people may not have been the patients of any doctor, turning to a dispensary in cases of extreme illness or injury. What regular care they did receive may have come through some other contract practice arrangement. S.S. Goldwater reported in 1915 that lodge doctors (doctors for fraternal or friendly societies) — contract practitioners—were the primary source of care for relatively poor people: workers, immigrants, and their families. *Recent Social Trends* author Harry Moore commented that in some industries with medical service, "the care has been of better quality than wage earning people commonly receive," which had "doubtless resulted in the prevention of a great deal of sickness." A National Tuberculosis Association survey in 1931–1932 found a "surprisingly large number" of plants providing care for dependents as well as workers.

Moore considered one of the American medical system's major problems to be inadequate distribution of medical treatment. People who couldn't afford care for acute sicknesses either got no care at all or an abbreviated course of treatment. Industrial organi-

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[80] Charles Worden, "The Field of Industrial Medicine in a Large Industrial Corporation," pp. 376–383.

[81] Emerson, ed., *PH&HS*, p. 537.

[82] Morgan and Repplier, "Health Service Side of Personnel Management," p. 43.

[83] Rosen, *Structure of American Medical Practice*, pp. 98–99; Sicherman, *Alice Hamilton*, p. 167; Moore, "Health and Medical Practice," pp. 1077–1078, 1100, 1106. These sources critique both the quality and the availability of care for workers.

zations, he wrote, "are taking the initiative in providing more adequate service" for a major population group—workers.[83] If many workers could not afford or did not seek medical care except in emergencies, company doctors who delivered basic care for workers on the job were supplementing rather than replacing other providers. In some cases, company doctors' referrals and personnel policies requiring workers to have physicians' certificates for returning to work after an illness may even have stimulated business for general practitioners. For all of its limitations, industrial medicine may have filled a gap between dispensaries and private practice in extending medical care to the working poor during the reorganization of medicine in the early twentieth century.

Company Doctors: Expertise and Authority

Physicians interested in industrial medicine laid the groundwork for professionalization of the field by establishing a specialty organization and journal prior to World War I. But it was more difficult to establish occupational medicine's claim to a special body of knowledge, distinct from that of general internal medicine. As George Meeker confided to George Morris Piersol,

> in its entirety Industrial Medicine seems to cover the whole field of medicine and surgery as applied in the industrial world. This would make a vast field to cover, the magnitude of which has deterred me from agitating the subject [as suitable for a medical school course].[84]

The AMA rejected industrial medicine's claim to special knowledge "as a threat to all medical ideals and to the existence of the individual practitioner:"

> This very attempt to make the effects of occupation on health a specialty confined to those in 'industrial practice' is itself another sample of the confusion of economic and medical thinking. To the extent that occupational conditions affect health and medical treatment they are a concern of every physician attending anyone having an occupation.[85]

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[84] George Meeker to George Morris Piersol, 24 September 1923. Graduate School of Medicine Records, University of Pennsylvania Archives.

[85] Bureau of Medical Economics of the American Medical Association, *Medical Relations Under Workmen's Compensation,* pp. 140–141.

Within the Section, however, Anders, along with Hoffmann and Estes, echoed Alice Hamilton in calling for the development "as rapidly as possible" of "specialists in this new and important domain," with medical schools and graduate programs offering a "comprehensive" course in industrial medicine. Two of Philadelphia's medical schools were among the few to follow Rush Medical College's lead in incorporating industrial medicine into the curriculum in any way.[86] Unlike specialties which employed complicated technologies or required particular precision and skill, little specific training—undergraduate or postgraduate—developed for occupational specialists. Again, the AMA interpreted this through the lens of medical economics and politics. The AMA's economic writer reported that industrial specialists complained of the profession's indifference to occupational disease causation, but that medical schools would not take up occupational health issues as long as "compensation practice is a closed corporation dominated by economic motives and maintained by compulsory patronage."[87]

We might regard the Section as a forum where industrial practitioners could articulate the claims of a new area of specialized medical knowledge before a representative sample of the profession's leaders.[88] Company doctors and interested parties who read papers before the Section were carving out a domain for occupational medicine: identifying new roles for doctors and sites for practice, and cautiously pushing the new field's boundaries up against those of other, established medical specialties.

Of course, claims and practice are not necessarily the same thing. In the 1910s and 1920s, Philadelphia physicians made a spirited case for what their professional skills—medical, sanitarian, and

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[86] Anders, "Scope and Aims," p. 465. Beginning in 1924–1925, the Graduate School of Medicine of the University of Pennsylvania incorporated clinical work in industrial medicine in its basic first-year post-graduate training program. The course was taught by Mervyn Ross Taylor, physician for Bell Telephone. The Women's Medical College of Pennsylvania introduced one of the first undergraduate medical courses in industrial hygiene in 1934. Bonnie Ellen Blustein, *Educating for Health and Prevention* (Canton, MA: Science History Publications, 1993), p. 29.

[87] Bureau of Medical Economics of the American Medical Association, *Medical Relations Under Workmen's Compensation*, pp. 140–141.

[88] The Section on Industrial Medicine and Public Health had its share of national medical leaders. James Anders was president of the American College of Physicians in 1923, as was George Morris Piersol in 1934. Piersol was also a member of the Medical Advisory Board to the Committee on Economic Security during the Depression, while Arthur Morgan served on the famous Committee on the Costs of Medical Care. Moses Behrend and Walter Cornell were both presidents of the Pennsylvania Medical Society.

psychological—could do to rationalize industry. They couched their rhetorical claims in terms of efficiency, conservation of resources, benefits for workers, and even the public's health, but ultimately they were selling to the factory owners' self-interest.

In 1917, W.L. Estes laid out for the Section members the eight primary tasks of occupational medicine specialists employed by businesses: frequent examination of defective workmen;[89] examination of potential employees and workers transferred from one department to another; simple treatment of sickness; prevention of contagious diseases; treatment of accidents; follow-up treatment of accidents; supervision of plant sanitation; and health publicity through leaflets in the workers' pay envelopes. From these simple tasks and for only a modest expenditure, the United States would gain a mentally and physically improved workforce.[90] Like Estes, Seneca Egbert foresaw large social benefits arising from industrial medicine. And like Hoffman, he assigned the company doctor responsibility for the workers' total environment, factory and home:

> Not all illness occurring among workers is due to the industry alone. Too often there are bad sanitary conditions at home, bad habits of life, ignorance of care of the body, etc. Frequently it is not the fault of the man but of the community, of the authorities and officials of the town. It would, however, be "up to the company doctor" to help remedy these faults. . . . if the homes and health of the laborers are closely looked after there would seem to be less likelihood of the occurrence of "strikes". . . . [91]

These were not inconsiderable benefits in the turbulent Philadelphia labor world of the late 1910s and 1920s.

By far the most common function of industrial medical services was the treatment of accidents. Plants which could not afford a

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[89] The words "defect" and "defective" had very broad meanings in the early part of the century. School children were inspected for defects such as tooth caries, large adenoids, and poor vision. One Section author referred to middle-aged workers with high blood pressure as defective. However, it is also true that unfettered industrialization had taken a bitter toll on the population in crippling injuries.

[90] Estes, "Compensation Laws," pp. 445–446; Egbert discussing Hoffmann, "Theoretical and Practical Aspects," pp. 435–436.

[91] Proceedings of the Section on Industrial Medicine and Public Health, 9 May 1917. Estes' discussion followed Frederick Hoffman's paper, "Some Theoretical and Practical Aspects of Industrial Medicine," p. 435.

physician's services often had at least a part-time nurse on-site to attend to the emergency medical needs of the workers. Smyth's industrial survey found that the dispensary of a heavy metal plant employing between 500 and 1,000 workers averaged 4.89 surgical visits per employee each year.[92] Workmen's compensation laws also had the effect of extending the company doctor's treatment of accidents into the home. Smyth reported:

> An increasing number of plant physicians now see bedridden accident cases in the home, either for treatment or to assure themselves that proper care is being given, so that the lost time and disability will be reduced to a minimum.[93]

"The full-time industrial physician, if properly qualified, is a hygienist and sociologist as well, and should be competent to control health conditions in his plant," Smyth wrote, echoing the sentiments of Hoffmann, Charles Worden, and other Section speakers. All agreed that general practitioners lacked the requisite understanding of both sanitation and industrial processes. "[T]he industrial specialist is perhaps a little keener in his observation and investigation of the occupation of the individual," Charles Worden said. He had the advantage of

> observ[ing] at first hand such conditions and details. The statement of a boy that he works in a perfumery factory would not reveal [to a non-specialist] the fact that he was breathing pulverized talc all day without a respirator.[94]

By this reasoning, the industrial specialist who spent time in factories on a daily basis was uniquely qualified to advise employers on measures to prevent or minimize workers' exposure to industrial hazards. Ironically, Smyth's survey shows that even in the largest factories with full- or part-time company doctors, management gave physicians authority over the plants' health and safety in only one-third of the plants. In smaller plants employing 500–999 people, physicians were in charge of sanitation in only two out of

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[92] Most accidents, such as eye injuries, probably fell under the surgical, as opposed to medical, category. The same heavy metal plant reported an average of 4.59 medical visits a year. Smyth was anxious that the reader interpret these rates not necessarily as a reflection of the hazardous nature of the work, but as an indication of the high efficiency and more dedicated recordkeeping of the medical service. Emerson, ed., *PH&HS*, p. 529.

[93] Ibid., p. 539.

[94] Worden, "Industrial Medicine in a Large Industrial Corporation," p. 378.

the 24 plants visited. Industrial doctors may have possessed special hygienic knowledge, but for the majority of employers its application appears to have been subordinate to other business concerns.[95]

Based on the numbers of companies reporting the practice, employers were most interested in doctors examining potential employees. It is not surprising that in the wake of workmen's compensation laws companies would seek new methods of protecting their productivity and pinning responsibility for illness and accidents on the workforce rather than the workplace. Pre-employment physicals were one such device. Estes pointed out the practical value of medical practitioners' diagnostic skills for manufacturers:

> As employers are obligated by the laws to pay indemnity for disability of persons injured while in their service, it followed, as a matter of course, that it would be of tremendous importance to know whether all the employees were physically fit for their special work.[96]

In accommodating themselves to companies' interest in screening potential employees, doctors accepted an approach to industrial hygiene that emphasized individual diagnosis and treatment rather than environmental improvement. Their stance paralleled trends in other areas of science and medicine. The "new public health" of the early twentieth century similarly retreated from the sanitary engi-

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[95] Emerson, ed., *PH&HS*, pp. 526–529. Smyth sent questionnaires to the 666 local firms listed in the 1925 *Industrial Directory of Pennsylvania* as having more than 100 employees. Some 221 firms replied, and the Survey's findings were based on the questionnaires and selected visits to the responding firms.

[96] Estes, "Compensation Laws," p. 444. See also Frank Craig, "Tuberculosis as it Affects the Industrial Worker," *Trans.*, 3rd ser., 44 (1922): 481–491. Because trauma was believed to be a possible cause for developing tuberculosis, Craig advocated pre-employment physicals and frequent exams of existing workers to protect employers from workmen's compensation claims. Establishing a baseline for workers' health was particularly important to an employer in terms of future compensation claims. A number of Section speakers struggled with medico-legal questions related to predisposition to disease and pre-existing conditions which might be exacerbated by job hazards. For example, dermatologist Joseph Klauder noted that trauma could induce new syphilitic lesions, which would be a compensable work-related injury even though the worker already had syphilis. He encouraged employers to avoid placing workers with neurosyphilis or cardiovascular syphilis on hazardous jobs. But Klauder also recognized that it was not practical for employers to give every job applicant a Wasserman test because it would be "discriminatory," and because syphilis was not uncommon. Joseph Klauder, "Syphilis and Trauma: the Workmen's Compensation Act, the Industrial Physician, and the Syphilitic," *Trans.*, 3rd ser., 44 (1922): 478–481.

neering and social reform of earlier periods to rely on education about personal hygiene and the medical examination as the primary tools of prevention.[97] In psychology, the popularization of psychometric tests for use in schools and personnel management following the Army intelligence tests in World War I also reflected an emphasis on individual ability and individual adjustment to society over a structural analysis of social problems.

The Section's speakers interpreted the role of company doctors to be that of industrial psychologists as well as sanitarians and healers. Much as family practitioners had traditionally claimed special knowledge of the whole person and his or her environment, industrial physicians, like Mervyn Ross Taylor of the telephone company, argued that they alone had special knowledge of workers' physical and sociological status and working environment.[98] Taylor defended the need for specialized, private industrial clinics to a carefully noncommittal Section on the grounds that the "services provided for by the hospitals is [sic] somewhat inadequate and too impersonal."[99]

Industrial doctors claimed to be able to "fit the man to the job and the job to the man."[100] In many cases, this referred to the physician's assessment of a person's physical and mental capacity as part of the employment and job assignment process.[101] Frederick Hoffmann, among others, suggested that the best method of protecting workers from industrial poisons and dusts was to limit their exposure by changing jobs frequently.[102] Smyth advocated careful selection of workers through pre-employment physicals as one approach to minimizing poisoning from the volatile chemical solvents used in industrial processes. He instructed his fellow Section members

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[97] Starr, *Social Transformation of American Medicine,* pp. 190–196.

[98] Taylor, "A Plan of Industrial Clinics," p. 331.

[99] Ibid.

[100] Buzby, "Defects in 1500 Employees," p. 299.

[101] The papers read before the Section in the 1920s all have a tone of acceptance that many people with "moderate disability" would be hired and placed in work that accommodated their particular disability. In many cases, the defect was small and easily remedied (such as vision in need of correction). Victims of serious industrial accidents were to be found in many workplaces. As company doctor Charles Worden stated, the disabled and the blind "have their proportionate value to industry and on their own part must earn a living wage." Worden, "Field of Industrial Medicine," p. 381.

[102] Hoffmann, "Theoretical and Practical Aspects," p. 430. The Pennsylvania Lead Bill required doctors to remove workers with lead poisoning (in certain industries) from hazardous jobs.

to exclude everyone with heart or lung conditions, blood abnormalities, skin sensitivity, nervous and mental conditions, digestive disturbances, and hepatic and renal conditions.[103]

Hoffmann suggested that there was a certain nobility in the physician's role as gatekeeper for industry: "The elimination of employees unfit for a given kind of labor is as much a duty as their proper compensation."[104] Franklin Buzby, a physician for the Keystone Leather Company and the Joseph Campbell Company, expanded on the alleged benefits of screening for both workers and employers:

> The idea in physical examinations of new employees . . . is that the employer can keep the unfit out of his plant, but at the same time by holding up or postponing employment of those with badly decayed teeth, markedly defective vision, [etc.] until these conditions are corrected, he actually forces health on applicants for work, and thus by having only physically fit men and women in a plant he greatly increases the productivity of the employees. . . . [105]

A fit workforce was not simply a matter of protection against workmen's compensation claims. Productivity—a real increase in output—was a major motivation for U.S. Steel's investment in extensive plant medical service. Seneca Egbert observed that with 13 to 15 million cases of illness a year—half of them preventable—among America's 40 million workers, medical care for laborers was a matter of economic efficiency and conservation of national resources.[106]

Taylor justified his plan for a network of industrial clinics in Philadelphia to the Section on the "necessity for minimum absence from employment and maximum physical capacity and energy."[107] Controlling absenteeism was critical to regularizing production, and doctors were the gatekeepers here as well. No employee could

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[103] Henry F. Smyth, "Volatile Solvent Hazards and How They May be Minimized," p. 73. It is not clear how thorough pre-employment physicals generally were. Exams done at Northeastern Hospital for neighboring factories included urinanalysis, and B. Franklin Buzby prided himself on a 12-minute exam which included stripping all clothing except the shorts and taking a brief history. But a photo accompanying Sidney Repplier's 1921 article on the Curtis Clinic simply shows a doctor using a stethoscope on a presumed applicant dressed in a shirt and tie.

[104] Hoffmann, "Theoretical and Practical Aspects," p. 429.

[105] Buzby, "Defects in 1500 Employees," pp. 291–292.

[106] Egbert, discussion following Hoffman, "Theoretical and Practical Aspects," pp. 435–436.

[107] Taylor, "A Plan of Industrial Clinics," p. 333.

be absent from work at U.S. Steel without written permission from the company dispensary. For its more than one million dollar expenditure on accident prevention and sanitation in 1916, U.S. Steel derived a tangible benefit: a new means of labor control.[108] In the view of invited speaker Emery Hayhurst, the company doctor was to be the medium for reducing malingering, for finding a compromise between the needs of production and health promotion.[109]

Workers accurately perceived that company doctors rarely occupied a neutral position in the highly partisan climate of the workplace. One of the twelve demands of the National Committee for Organizing Iron and Steel Workers in the 1919 steel strike was the abolition of health exams for workers.[110] According to Sidney Repplier, Curtis Publishing workers considered the Examination Bureau as "a hurdle which they had to jump to get the job, and after being successful in 'getting by,' they were not going to take any chances by going near it again."[111] Goldsmith referred to the "indifference, if not actual hostility" of workers towards most industrial health measures.[112] That physicians could ignore the inherently contradictory class interests at work, even in discussions among themselves in the Section, bespeaks both their class position and a high degree of faith in the benevolence and neutrality of science.

On the one hand, company doctors promoted themselves as scientists armed with unique expertise about laborers' health and industrial processes. On the other hand, occupational medicine simultaneously grounded itself in the rhetoric of a far older discourse, that of the physician as a moral authority. The value Henry Smyth saw in industrial medical service resided as much in company doctors' good influence on the morals of the workers as in their science. Seneca Egbert urged company doctors to monitor the homes of workers as an

> opportunity also of making good citizens of the foreign born. Any one of us can appreciate the tremendous influence the physician may have in the homes of those of foreign birth.[113]

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[108] Estes, "Compensation Laws," p. 449.
[109] Hayhurst, "Value of Medical Service," p. 664.
[110] Nugent, "Fit for Work," p. 591.
[111] Morgan and Repplier, "Health Service Side of Personnel Management," p. 43.
[112] Goldsmith, "Preservation of the General Health," p. 751.
[113] Smyth, discussion following Hayhurst, "Value of Medical Service," p. 672. Proceedings of the Section on Industrial Medicine and Public Health, 9 May 1917. Egbert's discussion following Hoffman's paper, "Theoretical and Practical Aspects," p. 435.

Like their dispensary colleagues of previous generations, company doctors occupied a position in the social hierarchy distant from their patients, sometimes colored by differences of nationality as well.[114] The class conflicts may seem obvious to us now, but for physicians in the early part of the century, they were obscured by traditional paternalistic beliefs and by an enthusiasm for applying medical science to aid civic and corporate efficiency. The Section members moved in social circles populated by corporate managers, while the industrial hellholes of Philadelphia were peopled with the newest and most disenfranchised workers—immigrants and African Americans.[115] Fellows' comments on several Section papers indicate that many shared a eugenic ideology compatible with medical ideas about constitutionalism and individual hereditary predisposition. Thus, Dr. Foltz could blame "subnormal persons" for a disproportionate percentage of industrial accidents, and Dr. Charles Burr advocated mental screening of workers because "trying to do a thing that Nature did not mean them to do" intellectually breaks them.[116] The social gulf separating doctors and workers may have made it easier for doctors to comply with employers' interests in shaping industrial medical practice without a sense of losing their professional autonomy.

Conclusion

In the early years of the Section on Industrial Medicine and Public Health, concerns about the practice of medicine in Philadelphia's factories and business establishments took precedence over the study of the nature and etiology of occupational disease. We view in microcosm the negotiation of occupational medicine as a new medical subspecialty largely divorced from its roots in the investigation of work-related disease hazards. Industrial hygiene found a niche within public health, while industrial medical practice remained within the bounds of clinical medicine. In Philadelphia, company doctors found their practices shaped by a confluence of factors: personal economic interests, changes in medicine, workmen's compensation legislation, employers' interest in regularizing production and costs, and shifts in the local economy.

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[114] Rosenberg, "Social Class," p. 262.
[115] Scranton and Licht, *Work Sights,* p. 204.
[116] Foltz, discussing Estes, "Compensation Laws," pp. 454–455; Charles W. Burr, discussing Elton Mayo, "Mental Hygiene in Industry," *Trans.* 3rd ser., 46 (1924): 746.

The Section's Fellows exhibited little of the competitive antagonism towards industrial medical practitioners that the historiography and the AMA's vehement denunciation of company doctors and contract practice would lead us to expect. Instead, the Section's preoccupation with economic issues and forms of practice suggests that physicians saw the income potential in industrial medicine and that the local medical marketplace was more open to varied compensation arrangements than the debates at the national level acknowledged. While occupational medicine has never been a particularly large or intellectually distinct branch of medicine, its history bears further investigation. The story of the early years of the Section on Industrial Medicine and Public Health shows that in the development of factory-based medical practices for a previously undeserved population, Philadelphia doctors were working out many of the issues central to the reorganization of American medicine in this period.

DEPARTMENT OF THE HISTORY
AND SOCIOLOGY OF SCIENCE
UNIVERSITY OF PENNSYLVANIA
PHILADELPHIA, PA 19104-3325

Hyrtl Skull Collection, ca. 1970. Courtesy of the Mütter Museum, College of Physicians of Philadelphia.

The Hyrtl Skull Collection

Gretchen Worden

Francisca Seycora had become a celebrated prostitute in Vienna by age nineteen, when she contracted meningitis and died in the General Hospital. Today her skull sits on a shelf in the Mütter Museum, showing the perfectly oval face and beautiful smile that captivated her long-dead clientele. She rests beside 138 others whose individual fates have now become collectively joined as the Hyrtl Skull Collection. The names of the famous demimondaine and her companions, and of the famous anatomist who brought them together, are equally unfamiliar to the visitors who encounter them for the first time in the College of Physicians of Philadelphia—*sic transit gloria mundi*. And yet they continue to be a living part of our world, in ways and for reasons that they could hardly have imagined on the one hand, and could easily have predicted on the other.

The man responsible for bringing this collection together had achieved international renown for his achievements in anatomical preparations, and his reputation was familiar to the Fellows of the College long before his collections became part of the Museum. Joseph Hyrtl was born in 1810.[1] His father played an oboe under Haydn in Count Esterhazy's band.[2] Hyrtl earned money for his education as a Vienna Choir Boy.[3] As a student at the University of Vienna, he studied mainly the osseous and vascular systems. His work on the vascular systems of fishes led to his appointment as clinical assistant to Joseph Julius Czermak, professor of physiology and comparative anatomy.[4] After being promoted to prosector in

[1] Erna Lesky, *The Vienna Medical School of the Nineteenth Century* (Baltimore and London: Johns Hopkins University Press, 1976).
[2] Fielding H. Garrison, *An Introduction to the History of Medicine With Medical Chronology, Suggestions for Study, and Bibliographic Data* (Philadelphia and London: W. B. Saunders Company, 1929), p. 463.
[3] Lesky, *The Vienna Medical School*, p. 240.
[4] Marlyn J. Kemper, "Whatever Happened to Joseph Hyrtl?" (M.A. Thesis, Temple University, 1970), p. 10.

1833, he continued assisting Czermak and also began research with Joseph Berres, the renowned microscopical anatomist.[5] He graduated from the university in March 1835, and then studied for a year in Paris and a year in London. The years spent abroad set the tone for much of Hyrtl's later work and established the foreign relationships on which he was to depend.[6]

Returning to Austro-Hungary, Hyrtl became professor of anatomy and surgery at Prague from 1837 to 1844, and then came back to the University of Vienna. There he taught regional and gross anatomy in the straight Vesalian tradition from 1845 until his retirement in 1874.[7] In 1846, he published a textbook on human anatomy, *Lehrbuch der Anatomie des Menschen*, in which he successfully connected the anatomy room with the clinic. The title included the phrase, "with consideration of the physiological basis and practical application."[8] Erna Lesky claims it "Made him famous with one stroke," and was translated into most major languages and was published in twenty editions.[9] His *Handbook of Topographical Anatomy* was the first of its kind in the German language. Both were written for the layperson and skilled professionals.[10]

Hyrtl also taught at the Josephinum, a museum, hospital, and school of medicine for military personnel, which was administered by the University of Vienna. He particularly enjoyed working in the museum, which contained anatomical models, injected preparations of vessels, and zoological specimens.

The state disapproved of comparative anatomical studies because they might contradict the tenets of the state religion, Roman Catholicism. Hyrtl, though himself a Catholic, was enough of an independent thinker to publish his findings regardless of the position of the administrative leaders. This disregard for state policy eventually led to his disfavor and spearheaded his retirement at the height of his career.[11]

Hyrtl's private collections, depicting phylogenetic development, were regarded as the finest in Vienna.[12] He had acquired many specimens through contacts at the Austrian consulates in Beirut,

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[5] Ibid.
[6] Ibid., p. 11.
[7] Ibid.
[8] Lesky, *The Vienna Medical School*, pp. 240–248.
[9] Ibid.
[10] Kemper, "Whatever Happened to Joseph Hyrtl?," p. 29.
[11] Ibid., p. 12.
[12] Ibid.

Khartoum, New York, and Havana, and traveled himself to Scandinavia, Sardinia, and Africa. But revolutionary as he seemed to the Austrian conservatives, his tenure at the University of Vienna marked him as a member of the establishment to those involved in the great democratic revolts of 1848. Mobs of students and discontented citizens in Vienna drove the elitist minister Metternich from his palace, and also destroyed Hyrtl's collections. He wrote to a colleague on 23 March 1849:

> My scientific career here in Vienna is finished forever . . . Nothing is left of my scientific treasures except the items I carried out with me that terrible day when my peaceful house was burnt to the ground. With it I lost all my vital energy and here where everything reminds me of my irreplaceable loss, I cannot begin anew. I have decided to leave and look for a happier place. Professor Horner [William Edmonds Horner, professor of anatomy, University of Pennsylvania] of Philadelphia was here in Vienna shortly before those terrible days. He saw my collection and wished to purchase it. I offered him my services and expect his answer daily. If this does not work out, I am enough of a surgeon to earn a living honestly in a foreign country. On the twentieth of this month, the courses were resumed and sweat stood in heavy drops on my forehead because I had to greet formally the ones who really caused my despair.[13]

The revolts seemed to have accomplished little politically in Austria or elsewhere in Europe, despite their toll in civil disruption and destruction of property. The Austrian constitution was revoked when Francis Joseph I came to the throne, and the old autocracy was restored. Hyrtl apparently never got that invitation from Professor Horner and resumed his teaching and collecting. In recognition of his aptitude in comparative anatomy, Hyrtl was awarded a state grant to start a museum of comparative anatomy. He availed himself of foreign contacts to acquire specimens, even writing to Joseph Henry of the Smithsonian Institution in 1873 for several American fish.

His own private fish collections totalled 800 skeletons. When financial pressures eventually forced him to sell the collections, the highest bidder was Edward Drinker Cope, for the biology depart-

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[13] Hyrtl to an unnamed colleague, 23 March 1849, quoted in Kemper, "Whatever Happened to Joseph Hyrtl?," p. 13.

ment of the University of Pennsylvania. These were later disposed of to the Academy of Natural Sciences in Philadelphia.[14]

Hyrtl developed extraordinary skill in the art of microscopic injections and corrosion preparations, believing that one must study both the inner and superficial structures in order to understand anatomy. He maintained that "the anatomist needed the hands of a craftsman, the patience of an angel, and the stomach of a pig, for only through artistic preparations could the field of anatomy be elevated to the status of a science."[15]

Hyrtl's retirement from teaching and public life, which he seemed to anticipate in the 1860s, was not occasioned by any loss of his intellectual or technical powers, but by an increasingly unpleasant academic environment which resulted from his personal qualities of arrogance and belligerence toward his colleagues and university administrators. His lectures were acknowledged to be humorous and well-constructed, interspersed with classical quotations, epigrams, anecdotes, and other examples of his wide reading and erudition, and were packed with foreign dignitaries and students of all nationalities.[16] Among his students numbered the Viennese urologists Anton von Frisch and Otto Zuckerkandl, the Viennese otologists Alfonso Corti and Carl Langer, the Viennese rhinologist Emil Zuckerkandl, the Edinburgh comparative anatomist Sir John Goodsir, the Russian medical and social reformer Wenzaeslaus Leopold Gruber, and the Americans Henry Chapman and Arpad Gerster.[17]

Hyrtl's actual retirement in 1874 was not voluntary. He wrote to Dr. Henry Chapman in Philadelphia:

> I live now under a very blow which has been dealt to me by Rokitansky. That man . . . hates every zealous and active anatomist . . . therefore, he appointed two new professors of anatomy at my side . . . So I lose two-thirds of my income and shall consequently retire from my chair, not being in the habit of supporting such indignity. There is a Professor in New York called Jacobi [probably Abraham Jacobi, famous pediatrician,

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[14] Ibid., p. 16.

[15] Ibid., p. 17; Joseph Hyrtl, *Lehrbuch der Anatomie des Menschen* (Vienna and Leipzig: Braumüller, 1889), p. 11.

[16] Garrison, *An Introduction to the History of Medicine*, p. 463; Kemper, "Whatever Happened to Joseph Hyrtl?," p. 23; Arpad Geyza Charles Gerster, *Recollections of a New York Surgeon* (New York: P.B. Hoeber, 1917), p. 107.

[17] Kemper, "Whatever Happened to Joseph Hyrtl?," p. 23.

> who had fled to the United States from Germany following the revolts of 1848] who bought 20 placentas and never will pay for them. When I wrote to him, two years ago, he told me the preparations were not for him, but for Professor Elliott who died. An honest man would send back the things. Please to tell me, what kind of man this Jacobi is? I will once more write to him. In my present situation 500 fl. are not a trifle for me.[18]

Hyrtl's retirement may have instigated the major dispersal of his collections, although he had been selling his preparations throughout his career. Horner's request to purchase his collection in 1848 may have been his first opportunity to see his specimens placed in Philadelphia. His fame was certainly well established in that city. He was invited to membership in the Academy of Natural Sciences of Philadelphia, and was elected to the American Philosophical Society in 1861. The Philadelphia institution with which his reputation and scientific contributions are most intimately associated, however, is the College of Physicians of Philadelphia.

The first expression of interest in Hyrtl's collections on behalf of the College came from Dr. W.W. Keen, who was in Berlin in November 1865. Keen wrote to Dr. S. Weir Mitchell that he had "been busy in collecting catalogues for the Col. of Ph." He then goes on to list specific items that might be worthwhile acquiring for the museum, including

> III. Hyrtl's microscopical injections—the celebrated anatomist of the Vienna School. A number of his injections I remember seeing at Queen's before I left [probably James W. Queen Company, a noted Philadelphia manufacturer of microscopes and other optical goods]—I think a complete set.
>
> In his letter he says, As there are many orders, one or another object may be for the time wanting. Please therefore ask for 1–2 pieces more or else leave the compensation to my choice.
>
> IV. Prof. Hyrtl's Fish & Amphib. Skeletons etc. He says,
>
> This collection can be sold only 1. entire or 2. in parts as noted p.b. (in brackets with red lead) I,II,III,etc.of the list of fishes now is augmented to more than 600. The skeletons are all made by my own hands.[19]

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[18] Hyrtl to Chapman 1 November 1872, Mütter Museum, Office of the Curator, Correspondence and Reports, 1865–1926, Library of the College of Physicians of Philadelphia, hereafter CPP.

[19] W.W. Keen to S. Weir Mitchell, 28 November 1865, CPP.

Keen had been commissioned by the Mütter Museum Committee, through the museum's curator Thomas Hewson Bache,[20] to procure material for the museum while he was pursuing graduate studies in France and Germany. He was probably solicited for the role through his friendship with S. Weir Mitchell, since Keen was not yet a Fellow of the College (he would become one in 1867).

S. Weir Mitchell was a member of the Mütter Museum Committee, a three-man body established by the terms of Dr. Thomas Dent Mütter's trust agreement with the College. The committee was to oversee the setting up and the management of the Mütter Museum. Dr. Mütter's Deed of Trust not only provided the College with his collection of over 2,000 specimens and models, but also with a $30,000 endowment to provide the services of a curator, to purchase the necessary jars and cases to exhibit the collection, and to acquire worthy additions to the museum so that it might continue to fulfill its mission of preserving important scientific material for the educational advantage of the public and the profession.

On 26 February 1866, Professor Hyrtl wrote to Dr. Thomas Hewson Bache, curator of the Mütter Museum:

> Sir, I have the pleasure to inform you, that my collection of Organs of hearing, consisting of 315 objects, cannot be divided, so as to sell the human preparations separately. The value and the scientific interest of this collection consists even in the exhibition of changes, which undergoes the strange form of an organ from man down to the lower animals . . . I would never have thought to part with a collection, which has been the pride and ornament of my private museum, since the English (in the exhibition of 1862) styled it admirable. But I think to leave my chair and to retire to the country, where an anatomical collection is a kind of burden. The price for the whole is 3500 flor/2 flor= 1 dollar, packing included. There is no similar collection, you may think, on perusing the names of

[20] Bache served as curator from 1865–1883. A graduate of Jefferson Medical College in 1850, he was a surgeon with the Army during the Civil War, and afterwards was connected with Children's Hospital and the Pennsylvania Institute for the Deaf and Dumb. He was a great-great-grandson of Benjamin Franklin and the son of Franklin Bache, and was named after Thomas Tickell Hewson, a former president of the College whose widowed mother brought him to Philadelphia on the advice of Benjamin Franklin, who stayed in her mother's house in London. See Thomas A. Horrocks, "Thomas Hewson Bache: A Forgotten Fellow of the College of Physicians of Philadelphia," *Transactions & Studies of the College of Physicians of Philadelphia* (hereafter cited as *T&S*), 5th ser., 8 (1986): 247–253.

> the animals whose organs of hearing I have prepared, that things, so rare and precious, are not easily to be got a second time. If the College of Physicians in Philadelphia should think proper to purchase the collection, I can send it without delay, and carefully packed, so that damages are out of possibility. The payment is quite at the commodity of the purchasers. Every physician in London, who saw the things [in] 1862, may bear testimony to their perfectness. The fishes and reptiles of the same catalogue are also to be disposed of. Yours very respectfully, Prof. Jos. Hyrtl.[21]

Hyrtl's letter may very well have been in response to some suggestion from Keen that he should make an offer directly to the College. Neither Keen's interest in his microscopical injections, however, nor Hyrtls's 1866 offer of his organs of hearing, seem to have stimulated any immediate action on the part of the College.

The next item of correspondence is dated 29 October 1873, from Hyrtl to Bache, evidently in response to an earlier letter:

> Honoured Sir, In reference to your letter, dated October 7th, I hasten to give the following information. 1. The enclosed list contains my anatomical preparations, which I can dispose of presently. Many of them were exposed at the Vienna Exhibition, as chosen objects of my private anat. collection. They are perfect in every respect. 2. The letters A,B,C, of the list denote three small treatises, which will come to your hands with this letter, and which contain a short explanation of the preparations. The collections of skulls is not contained in them, because the skulls were exposed towards the end of the Exhibition, on demand of the Committee . . . 4. The contents of the list are indeed models of technical anat. workmanship. The placenta and corrosions, as well as the microscopical injections, many of them are things quite new and as beautiful as instructive. 5. I should feel very happy, if my anat. treasures, or part of them, should find a hospitable roof in a great scientific establishment, instead of being dispersed in various Universities . . . Your obedient servant, Prof. Dr. Jos. Hyrtl.[22]

Attached to the letter is a handwritten list of the items being offered for sale, with prices now given in Prussian Thalers, with 1 thaler

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[21] Hyrtl to Thomas Hewson Bache, 26 February 1866, CPP.
[22] Hyrtl to Bache, 29 October 1873, CPP.

equal to 3/4 dollar. Under the general heading "Osteology," the list begins with two tableaux of the skeletons of osseous and cartilaginous ganoid fish, one tableau of tailed and non-tailed Batrachia, two tableaux of crocodiles, one of representatives of Saurii, and two of giant snakes. The next group of listings is "Skulls":

> a collection of 70 skulls of all the tribes of Eastern Europe (2 Hollanders). The 30 nations inhabiting Austria, 40 of Russia, Polonia, Bukowina, Wallachia, Turkey, Serbia, Bosnia, Macedonia, Albania, Montenegro, Greece, Palestine, Kaukasus, Ural, Islands of Aegean & _____, etc., etc. Every skull bears the name of _____, birthplace, age, religion, occupation, cause of death (not all)._____hanged (?) or executed murderers among them. [T]he skulls are perfect, snowy-white, teeth complete, inferior maxilla movable, with elastic wires. Such a collection will never again be brought together. It is easier to get the skulls of Islanders of the Pacific, than those of Moslim, Jews, and all the semisavage tribes of the Balkan & Karpathien valleys. Risking his life, the gravestealer must be largely bribed. My pupils who are physicians to the Turkish Pashas, procured most of them for me. 70 skulls 1000.

Added in a lighter script under that listing, is "2 Series of Skulls _____ peculiarities 60 in number." The number "60" seems to be written over an earlier "70," which fits in better with later records. Hyrtl lists three worked skulls, one of a hanged murderer and one of a child of some years, prepared so as to show development of the teeth and the bones of the skull, all for 130 thalers. Next, "Skull of Mozart. Authentic, without maxilla inferior. I had an offer of 200 Thaler from the native town of Mozart. 300."[23] Despite skepticism expressed by some, there is good reason to believe that Hyrtl actually did have Mozart's skull.[24] Hyrtl's list also included "Microscopical Injections, 5 boxes," including organs of sight, and

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[23] Ibid.

[24] According to an article in *Archaeology* (Paul G. Bahn, "The Face of Mozart," *Archaeology* [1991]: 38–41), one of the two gravediggers who buried Mozart recovered the skull when the cemetery was clearing graves to make room for new arrivals. He passed it on to a successor, who gave it to Jacob Hyrtl, Joseph's brother. When Jacob died in 1868, it was inherited by Joseph. In 1901 it became the property of the city of Salzburg following the settlement of the estate of Hyrtl's widow. A recent examination conducted in France, which included superimposing photographs of portraits of Mozart over the skull, and soft-tissue reconstruction, support the identification of the skull as that of the composer.

Organs of hearing. Two carved rose-wood tableaux. One with Labyrinths 105 pieces, 5 new (one Gorilla, whose skull was bought in Paris for 1000 francs). The second contains the chains of Ossicula auditus, some with membrana tympani, & tympanic ring, in all 174 groups. 2000 These things are indeed worth their money.

Placenta. 24 exquisite specimens of Placenta, injected through arteries & veins. They were chosen from my collection of 120 Placentas for the Exhibition . . . 600. To make the collection complete, viz. to represent all physiol. varieties and pathol processes of Placenta, 12 more preparations would be necessary. I would single them out to your satisfaction of my private collection for the price of 200.

Genital Organs. 6 Preparations, well mounted, injected, partly corroded. They show the bloodvessels of the uterus & vagina, with Ovary, in pregnancy, the new Vaginal Artery (Arteria azygos), the vascular structure of the penis (splendid), and the Bulbi of Vestibulum Vagina . . . Very fine and instructive objects 50.

Corrosions. In carved frames, under glass bells. I singled out of my collection of 185 corrosions, 57 specimens . . . for the Exhibition of Vienna. They may be called the flowers of technical anatomy, and as such, were always surrounded by a crowd of admiring physicians and many ladies, who showed the same interest for them, as for the skulls of Eastern tribes, which I exposed only the last 2 months of the Exhibition . . . 1200 Pr.Thal.

13 preparations more, would render the collection complete for the principal organs of man & animals . . . 240 Thal.

All my books, published since the Paris Exhibition, splendidly bound, may be had for 120 Thal.

The Mütter Museum Committee received and considered this list, and immediately following the 24 November 1873 Committee meeting, Bache wrote to Hyrtl saying he was coming to Vienna, to see about buying part of Hyrtl's collection. Hyrtl responded on 23 December 1873, from Vienna:

I received your last letter, (Dec. 4th) yesterday, & I give immediately answer to it. I reckon, after your plan of journey, that you will reach Vienna towards the end of March or the beginning of April. At that time I shall be absent from Vienna. I have purchased an old tower of a dilapidated medieval castle . . . where I

> fix my lodging after having retired from my chair, which I held through 37 years. My wife will be in Vienna at the mentioned time, together with my assistant, Dr. Friedlowsky, Prosector to my anatom. chair . . . Dr. Friedlowsky will show you my preparations, & give me notice of your arrival, that I may have the pleasure of seeing you and transacting our business personally. Part of my collection is already in my old tower. It would be very welcome to me to know what objects you will certainly not take. I have offers from Berlin & Leyden. I answered them, that a transaction is pending with America, & that they may have what is not accepted by you. & your museum . . . I wish you heartily a good & pleasant voyage across the Ocean and remain Your devoted servant, Jos. Hyrtl.[25]

Hyrtl wrote again to Bache on 2 February from Perchtoldsdorf, noting a letter from Bache stating that he was safely arrived in Europe. He expressed disappointment that Bache apparently had no interest in the fish and reptile skeletons, since "they are models of anatomical workmanship." He again reassured Bache that all would be ready for him in Vienna. Bache arrived in Vienna on Thursday, 17 April 1874, and Dr. Friedlowsky showed Bache the collection. A message arrived from Hyrtl, inviting Bache to join him near the village of Gaaden, outside Vienna. On Monday, Bache and Dr. Friedlowsky set out for Perchtoldsdorf. The agreement was signed that same day, between Professor Hyrtl and the Mütter Museum, for the purchase of the greater part of Hyrtl's collection for 6,410 Prussian thalers.

The agreement of sale included:

> Tables I and II. Organs of Hearing . . . One set of Sculls (sic), 70 in number, of different races of Man, One set of sculls (sic), 70 in number, different varieties and peculiarities (140), Three worked skulls, dissected, showing peculiarities of same work, Five boxes of chosen objects, microscopical injections . . . One box of 24 microscopical preparations selected by Dr. Friedlowsky to make the set complete, Twenty-four chosen placenta injections . . . Twelve additional placentas to make above collection more complete, . . . Six preparations Genital Organs . . . Two preparations of Brain made by Dr. Betz of Russia, Fifty-seven Corrosion Preparations.[26]

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[25] Hyrtl to Bache, 29 October 1873, CPP.
[26] Agreement, 21 April 1873, CPP.

Joseph Hyrtl, n.d. Courtesy of the Library, College of Physicians of Philadelphia.

On 22 April, Bache wrote to J. Rodman Paul, chairman of the Mütter Museum Committee, that he had paid Hyrtl the first installment of 1,000 thalers. On 10 June 1874, Hyrtl wrote to Bache with instructions for unpacking the four boxes which had just been sent off to Antwerp. He lists what is in each box, and the contents correspond with the agreement of sale. For the skulls, he says that each is wrapped in paper which should be looked through for loose teeth on unpacking. On 24 August 1874, Hyrtl sent to Bache a receipt acknowledging full payment of the 6,410 Prussian Thalers. Accompanying the receipt was a letter in which he refers to slight damages mentioned by Bache that occurred to some of the wax corrosions, with instructions for their repair. It would seem that all of the items listed in the agreement of sale were received by the Museum.

Not all of the items from the sale are to be found in the Museum today, however. The donor card lists 139 (not 140) skulls, the organs of hearing, 24 (not 36) placentas, and 57 corrosions. No mention is made of the two brain preparations, the six genital organs, the three worked skulls, or the microscopical injections and preparations. Of the last, however, we do know the fate of some of them. Mrs. Ella Wade, curator of the Museum from 1940 to 1970, revealed in a 1968 interview that Hyrtl's microscopical preparations of the eye were thrown out by the Museum, because of lack of facilities and storage space.[27] There are still some microscopic preparations of eye pathology by Hyrtl in the collections, but they were given to the Museum in 1938 by Dr. Simon S. Leopold.

The Hyrtl collections at the museum have received a good deal of attention over the years. Adam Politzer, the great Viennese otologist whose own collection of tympanic membranes was purchased by the Museum in 1876 after they had been exhibited at the Centennial Exposition, came to visit in 1893 on the occasion of the World Exhibition in Chicago. He wrote that on visiting the anatomical museum of the College of Physicians of Philadelphia, he was able to admire

> the famous and unique corrosion preparations of the comparative anatomy of the labyrinth and the auditory ossicle of the mammals by our senior master Hyrtl, as well as the latter's collection of corrosion preparations of the lung, liver, kidneys, the placenta and other organs, which had been exhibited in Vienna in 1873.[28]

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[27] Kemper, "Whatever Happened to Joseph Hyrtl?," p. 20.
[28] Lesky, *The Vienna Medical School*, p. 211.

Both the Hyrtl and the Politzer otologic collections were the subject of a 1972 *Transactions & Studies* article.[29] Much has yet to be written about his corrosions and placentas. But for now I will focus on the collection which has the most visual and intellectual impact on museum visitors and researchers today—the Hyrtl Skull Collection.

Hyrtl's skull collection was not the only collection of skulls in Philadelphia at the time. There was a significant one in place already, assembled by Samuel George Morton, M.D.[30]

One of the pioneers of physical anthropology, Morton based his analyses of human crania on a belief that the different races of man had differentiated following the Biblical flood some four thousand years before his time. Reasoning that such differences as appear between humans could not have developed by natural means in that space of time, the races must have been designed by a Divine hand for their particular geographical situations, which they so well suited. Their intellectual capacities, as represented by their brain volumes calculated from their skulls, also reflected a natural hierarchy. The temperate zones, being optimally suited for the fullest development of the human physique and intellect, was the proper domain of the Caucasian race. Proof of its superiority in all respects was in its subjugation of all other races on whatever continent they might be found, whether in India, North, South, and Central America, and Africa. Morton equated intellectual superiority with large volumes of endo-cranial measurement as representing brain size, and was able to rank the various races of man through this means so that the Caucasian was on top and the Negro was on the bottom. He was a proponent of the polygenistic theory of human development, that man was a single species, but that the races were created separately at one time.

Hyrtl's basic belief, rooted in his Roman Catholicism, was that while the physical body of man developed in response to the mechanistic influences of the natural world, man's mind, housed in his brain, developed according to a Divine plan. Therefore, the relationship of the external and internal measurements of the skull to the intellectual development of the individual was totally random.

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[29] Sylvan Stool, Bennett I. Kemper, and Marlyn J. Kemper, "The Adam Politzer and Joseph Hyrtl Otologic Collections at the Mütter Museum," *T&S*, 4th Ser., 40, (1972): 92–102.

[30] By the time he died in 1851, Morton had gathered over 1,000 skulls of Native Americans and other groups. By a special subscription, they became the property of the Academy of Natural Sciences, which he had served as president for many years. They have since been transferred to the University of Pennsylvania Museum.

According to Hyrtl, everyone knew someone of mediocre intellect with a large head, whereas such provably gifted individuals such as Oliver Cromwell and Vesalius had small heads.[31]

Hyrtl also mistrusted the shape of the skull as an indication of racial stock, because as he asserted, a dolichocephalic brain form could be housed in a brachycephalic skull due to cranial asymmetry or obliqueness. It is now a recognized fact that ectocranial and endocranial indices can vary.[32]

Hyrtl's monogenistic belief contrasted with Morton's polygenistic theory. His criticism of Morton was that the latter's conclusions concerning the intellectual ranking of the races of man were invalidated by his use of phrenology, inadequate material as a basis for measurements, and neglect to distinguish the sex of the crania under study.[33] In his ultimate rejection of metrical similarities as proof of genetic resemblances, Hyrtl maintained that "individuals subsumed within generic racial category did not necessarily have identical characteristics in the same combinations."[34]

Hyrtl's collection, therefore, demonstrated the variety of cranial shapes within ethnic groups, as well as the plasticity of the skull in response to hormones, age, and occupations. As to the latter, he noted the extreme development of the mastoid process in peasants who were accustomed to carry heavy loads on their heads and therefore place greater stress on the sterno-cleido-mastoid muscle.

The Hyrtl collection consists of 139 skulls, most of which have an ink inscription on the side giving the place of birth, the name and age, religion, occupation, cause of death, and donor. In some cases, the ink inscription may have been lost through cleaning and the identity is known only through the catalogue cards. The inscriptions are either in German, Latin, or in a few cases, Italian.

As it became evident several years ago that the inscriptions on the skulls did not match the information given on the catalog cards, museum staff went through the entire collection with Fellow and former Mütter Museum Committee member Dr. Andras Korenyi-Both. Dr. Korenyi-Both was born in Hungary and had a working knowledge of the German and Russian languages, in addition to his native Hungarian and, of course, English. For identification of place names, he enlisted his mother, a professor of biology who still lives

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[31] Kemper, "Whatever Happened to Joseph Hyrtl?," p. 57.
[32] Ibid., p. 53.
[33] Ibid., p. 54.
[34] Hyrtl, quoted in Kemper, "Whatever Happened to Joseph Hyrtl?," p. 56.

in Hungary, and who had personal knowledge of changes in political boundaries during the two world wars. And for accurate translation of the Latin, he was assisted by a local Hungarian priest. Many of the inscriptions are fragmentary or subject to different interpretations of the handwriting (not all were written by Hyrtl). An understanding of European languages, history, and political geography was essential for the correct transcription of the information on the skulls, and while questions remain, we feel confident that our current labels accurately represent the information given on the skulls themselves as far as possible.

What still needs revision, in view of the dissolution of Yugoslavia and the Soviet Union, is the assignment of the individual skulls to the proper ethnic groups, which have been obscured by changing political boundaries. The vast majority of the individuals are from eastern or central Europe, primarily Czechoslovakia, Austria, the former Yugoslavia, Romania, Hungary, Italy, the former USSR, Poland, and Greece. Those countries with three or fewer representatives include Switzerland, Holland, Turkey, Lebanon, Finland, Thailand, Egypt, China, Japan, Bulgaria, Albania, Iran, and Armenia. With some, the locale given on the skull is clearly the place of death, not necessarily birth or country of origin, and in those cases it confuses the number of countries represented. Francisca Seycora has an Hispanic name, though she died in Vienna, and should probably be counted as a representative of the Iberian Peninsula. A Turk buried near Belgrade should likewise be counted among the Turks, and not with the former Yugoslavians.

The ages of the individuals vary from eight to 80. Cause of death is mostly from trauma or disease (61), suicide (16), execution (11), or unknown (50). Occupations include soldier, maidservant, sailor, painter, stonemason, cabin boy, supercargo, herdsman, bandit, and prostitute. There are only 14 women among the 139 skulls. Trauma usually consists of gunshot wounds or fractures, with one broken neck in the case of a tightrope walker. Diseases include tuberculosis, typhus, pneumonia, diphtheria, puerperal fever, cancer, and smallpox. Executions were by hanging, beheading, or in one case, scourging.

The suicides were because of unhappy love affairs (2), discovered thefts (3), weariness of life (1), extreme poverty (1), or unspecified (9). Potassium cyanide was used twice, hanging three times, throat cutting once, and gunshot once. One suicide was probably unintentional. A 25-year-old Russian member of the Scopzis (a fanatic religious sect) died after removing his own testicles. An attempted suicide, that of Geza Uirmenyi, a Hungarian herdsman, ended hap-

pily. Geza became depressed at age seventy and tried to cut his throat. Because of an ossified larynx he was unsuccessful, and according to the inscription, "lived until 80 without melancholy." The two successful Hungarian suicides include a 34-year-old soldier who shot himself through the heart "because of weariness of life," and a 21-year-old soldier who killed himself for reasons unknown.

A 10 March 1995 *Wall Street Journal* article reported that Hungary has had the worst per capita suicide rate for the past two decades, and that it is part of a centuries-old cultural tradition that accepts and even seems to honor suicides. If one includes Geza, Hungary still has only three of the 17 successful or attempted suicides (Austria has four), but two of them are for depression. The others all have more specific causes—unhappy love affairs, discovered thefts, or extreme poverty. Perhaps support for this recent observation of such an intangible element of the Hungarian national character can be found in the very tangible Hyrtl skull collection, proving its usefulness in "psychological anthropology."

There are more connections between today's headlines and the Hyrtl skull collection than suicide statistics. A recent *Philadelphia Inquirer* article entitled "The Lesson in History that is Eastern Europe," observed that in some parts of the area it is as if the calendar was turned back to 1848. That is the world of the Hyrtl skulls, most of which were acquired between 1848, when much of his original collections were destroyed, and 1869, one of the few dates of donation noted on the skulls. The strange and unfamiliar names of towns and regions that were absorbed into Yugoslavia, the Soviet Union, and the other twentieth-century artificially created political entities of central and eastern Europe, are now becoming all too well-known. Hyrtl's "semi-savage tribes of the Balkans and Karpathiens" are once more at each other's throats, and exerting undue claims on the attention of the West as they always have. A few months ago two anthropologists from the Smithsonian came to examine and measure three Croat skulls in the collection, and to compare them with our four Serb crania. Their purpose: to begin assembling a database on the physical characteristics of Croatians, in preparation for their July 1995 visit to Zagreb. There they will train Croatian anthropologists, who will be called on to identify remains recovered from mass graves resulting from the present conflict.

A Hungarian journalist living in Philadelphia found the collection particularly interesting because of its connection to the past. In an article he wrote for a Hungarian newspaper published in Vienna, 21 March 1987, he described his amazement at coming into the mu-

seum of the College of Physicians and seeing well-known Hungarian names—Geysa Fekete de Galantha, Laszlo Czaky, Vilmos Szabo—on skulls identified as belonging to deserters, robbers, and murderers. He had a strong suspicion that they were actually freedom fighters from the revolts of 1848–49, and had been executed then or during the subsequent years of oppression. In his article he suggested that further information about these men could probably be found in military and other archival materials remaining in Hungary and Vienna. No one has yet risen to the challenge of finding them, but the potential remains for some interesting historical research.[35]

Sometimes the questions posed to the collections are of a purely anatomical nature. Dr. Indar Jit, of the Department of Anatomy in the Postgraduate Institute of Medical Education and Research in Chandigarh, came to Philadelphia in 1987 to study two collections of skulls as part of an ongoing research project on persistent frontal or metopic suture. The collections were the 139 Hyrtl skulls, and 100 skulls from Tepe Hissar in Iran, collected by the late Professor Wilton Krogman and housed at the University of Pennsylvania.

The frontal bone has two centers of ossification; the suture between them usually becomes obliterated by the age of 2 1/2 years. Some anatomists have alleged that the suture is more likely to remain open in brachycephalic (broad-headed) individuals, reflecting the greater development of the frontal lobes and therefore of intellectual development in those races tending toward brachycephaly. Rudolf Martin, in his *Lehrbuch der Anthropologie*, finds the highest incidence of metopism in Scotsmen and Parisians, and the lowest in Australians and Negroes.[36] Within the Indian population studied by Jit, metopism was far more prevalent in dolichocephalics. He used data from the Hyrtl skulls to show that the incidence of metopism in European skulls is lower than others have reported, and that it can no longer be stated that the incidence of metopism is less in the eastern than in the western populations.[37] The Hyrtl collection has seven examples of persistent frontal suture. It was quite interesting to the Smithsonian anthropologists, and to museum staff, to see that by selecting out the Serb and Croat skulls, four of the seven cases of metopism were also isolated, evenly split among the two groups. Incidentally, both Serbs and Croats are quite

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[35] *képes 7*, No. 12 (March 21, 1987): 6.

[36] Martin cited in I. Jit and N. Banga, "Metopism in North-West Population of India," *Journal of the Anatomical Society of India* 37 (1988): 50, 54.

[37] Ibid., 55.

brachycephalic. It will be interesting to see if the Hyrtl collections reflect a wider and hitherto unrecognized prevalence of metopism among these ethnic groups.

Sometimes the search for anatomical information has a more practical purpose. Dr. B. Alexander Randall, noted Philadelphia otologist, asked the question in an 1894 article: "Can important topographical relations of the temporal bone be determined from the form of the skull?"[38] His question was not purely academic—it was intended to help guide surgeons operating on the mastoid, so as to keep them from cutting inadvertently into dangerous structures. Part of his research material was the Hyrtl skulls. His conclusion was that while there were general rules determining the location of the deeper structures, they were unreliable in any given case, and the surgeon should use the chisel in preference to the trephine and drill, and proceed with utmost caution and direct visualization to determine the location of the lateral sinus and other anatomic features.

The collection has few, but interesting, pathological conditions. There is a case of premature closure of the frontal suture causing a very sloped forehead, some examples of microcephaly, an anomaly of dentition, and two cretin skulls from Switzerland. These were recently the focus of attention for a researcher from the National Laboratory in Oak Ridge, Tennessee. He had been referred to the Museum by staff at the National Museum of Health and Medicine and the Smithsonian, neither of whom had any definitely identified examples of this thyroid deficiency disorder. He had found a collection of post-cranial material in Zurich, but was particularly interested in the effects of cretinism on the shape of the skull. After being provided with photographs of the two Hyrtl skulls, taken from every relevant position in order to demonstrate tooth shape and wear patterns, brow ridges, and the shape and size of the orbits, he was able to conclude that both were indeed sufferers from cretinism. One exhibited the endemic form of the disease, the other the chronic.

Who knows how many future questions the Hyrtl skull collection may answer, and who knows what those questions will be? Despite its relatively small size, the collection has been shown to be useful both as a source for unique material, such as the cretin, Serb and Croat skulls, and as part of a larger database of cranial material, when combined with other skull collections in this country and

[38] Randall, "Can Important Topographical Relations of the Temporal Bone be Determined From the Form of the Skull? As Answered in Part by Five Hundred Skull Measurements," *Archives of Otology,* 23 (1894).

abroad. It is a rich field waiting to be cultivated by the historian of medicine, by the student of European social and political history, and by the anthropologist. There is also material worthy of consideration by the contemporary pathologist. But perhaps what matters most to the daily visitors in the museum is that every skull was a life, and every life was a story, some of which is sketched in its barest essentials on the skulls themselves.

COLLEGE OF PHYSICIANS
OF PHILADELPHIA
19 SOUTH 22ND STREET
PHILADELPHIA, PA 19103

Dr. Ames Defines His Profession

David McCarter

> Where silly quacks are most respected, there honest doctors are neglected.
>
> Petty Attorneys and Quack Doctors are like Wolves and scabbed Sheep among the Flock. One devours, and the other breeds the Rot.[1]

Above are two examples of the wit and wisdom of Dr. Nathaniel Ames, almanac maker of Dedham, Massachusetts. They also reveal how one New England "doctor-cum-almanac maker" sought to influence his reading public in medical matters.[2]

Ames's opinions reached a large and socially diverse audience. New Englanders were a comparative literate people, even among the lower classes. And almanacs sold well, serving as a calendar, weather forecaster, notebook, and compendium of useful information. Perhaps only the Bible had a larger readership. Ames's *Astronomical Diary* increasingly dominated the New England almanac market during its thirty-nine years of publication (1726–1764). By 1764, eight of eleven almanacs published in New England were different editions of Ames's. Ames believed that his almanac was used in the poorest, least educated, and most isolated homes. Extant diaries show that members of New England's elite also bought and used Ames's almanacs. Ames would use this readership to promote what he thought of as his true calling—that of "doctor."[3]

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[1] Nathaniel Ames, *Astronomical Diary for the Year . . . 1734* (Boston: Booksellers [1733]) and *Astronomical Diary for the Year . . . 1738* (Boston: Draper [1737]).

[2] On Ames's literary wit, see Marion Barber Stowell, "The Influence of Nathaniel Ames on the Literary Taste of His Time," *Early American Literature* 18 (1983–84): 127–45.

[3] For comparative summaries of literacy in Europe and America, see David Cressey, *Literacy and the Social Order: Reading and Writing in Tudor and Stuart England* (Cambridge: Cambridge University Press, 1980), pp. 175–89; and Kenneth Lockridge, *Literacy in Colonial New England: An Enquiry into the Social Context of Literacy in the Early Modern West* (New York: Norton, 1974), pp. 72–102. On almanac distribution, see David Hall, "The Uses of Literacy in New England, 1600–1850," in *Needs and Opportunities in the History of the Book*, ed. David Hall and John Hench

In his home village of Dedham, just south of Boston, Ames became much more than a medical man and famous almanac maker, taking on the roles of inn keeper, "lawyer," and, finally, justice of the peace.[4] But he considered physic his main occupation, though not always a profitable one. His day book summarizes the year 1741 as "Exceeding Healthy but Little practice."[5]

His proverbs on quacks show that Ames believed more than his patients' good health depressed his medical practice. He, an "honest doctor," had to compete against "silly quacks." But what, in prerevolutionary Massachusetts, was a quack, as opposed to a doctor? Why should the doctor "be respected" over other people in practicing medicine?

Medical Practice in England: "Doctors" and Others

In England, the doctors, or physicians, could at least appeal to their university education and their position atop a traditional hierarchy of medical practitioners: they diagnosed and prescribed treatments, the surgeons cut and mended at their direction, and the apothecaries dispensed the drugs they ordered. Still, English physicians had trouble winning the public over to the notion that they should be the main experts in health and healing. Many surgeons, apothecaries, and other practitioners (such as midwives) went about "practicing physic" (diagnosing and prescribing for patients) and even took the title "doctor." Physician-penned pamphlets drew clear pictures of quacks as "mongers" of "secret" nostrums and treatments and slanderers of true physicians. Yet the public was often confused when some physicians hawked their own secret concoctions and disparaged *their* competitors. Indeed, one observer of the pamphlet war between "quack" Dr. Myersbach and the "legitimate" Dr.

(Worcester, MA: American Antiquarian Society, 1987), pp. 24–28. For Ames's own description of his readership, see the Preface to *An Astronomical Diary for . . . 1754* (Boston: Draper, [1753]). I compiled the statistics on almanac publication from the computer catalogue of the American Antiquarian Society, Worcester, MA and Milton Drake, *Almanacs of the United States*, 2 vols. (New York: Scarecrow, 1962).

[4] On Ames's life and career, see Winifred E. A. Bernhard, *Fisher Ames: Federalist and Statesman, 1758–1808* (Chapel Hill: Institute of American History and Culture, 1965) pp. 3–19; Peter R. Eisenstadt, "The Weather and Weather Forecasting in Colonial America" (Ph.D. diss., New York University, 1990), pp. 113–14; and Marion Barber Stowell, *Early American Almanacs: The Colonial Weekday Bible* (New York: Burt Franklin, 1977), pp. 72–76.

[5] A Diary of Accounts, 1741, Day Books of Nathaniel Ames II, Ames Family Collection, Dedham Historical Society, Dedham, MA.

Lettsom concluded "I think ye both quacks, who prescribe in the dark, Sirs."[6]

Defining the "quack" and the "doctor" was a far murkier business in Massachusetts, where there was neither a medical hierarchy nor M.D.s. Nearly all "doctors" were general practitioners—giving diagnoses, performing surgeries, and dispensing drugs. And during the first half of the century, Dr. William Douglas (1691–1752) was the only Massachusetts practitioner who possessed a European medical degree. Many of Massachusetts's 874 "doctors" were Harvard graduates, but little pertaining to medicine was taught there until the 1780s. Apprenticeship, such as was common for English surgeons and "practicing" apothecaries, and informal training from a relative who was a doctor were the typical ways of education for Massachusetts doctors.[7]

These doctors also had to compete against a host of other practitioners, some of whom had similar training and experience. For example, "preacher-physicians," or clergymen who doubled as paid medical practitioners, possessed Harvard or Yale degrees, acquired

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[6] The quotation is from "Galen" [pseud.] in *The Public Ledger* (30 September 1776), cited in Roy Porter, "'I Think Ye Both Quacks': The Controversy between Dr. Theodor Myersbach and Dr. John Coakley Lettsom," in *Medical Fringe & Orthodoxy, 1750–1850,* eds. W. F. Bynam and Roy Porter (London: Croom Helm, 1987), p. 73. See pp. 56–78 for the context of the Myersbach/Lettsom controversy in the popular press. On doctors, quacks, and medical practice, see Porter, *Health for Sale: Quackery in England, 1660–1850* (Manchester: Manchester University Press, 1989) pp. 1–90. On physicians, surgeons, and apothecaries, see Geoffrey Holmes, *Augustan England: Professions, State, and Society* (London: Allen and Unwin, 1982), pp. 184–205; Irvine Loudon, *Medical Care and the General Practitioner, 1750–1850* (Oxford: Clarendon, 1986); Harold Cook, "Practical Medicine and the British Armed Forces After the Glorious Revolution," *Medical History* 34 (1990): 1–26; and Joan Lane, "The Role of Medical Apprenticeship in Eighteenth-Century Medical Education in England," pp. 57–104, in *William Hunter and the Eighteenth-Century Medical World*, eds. W. F. Bynam and Roy Porter (Cambridge: Cambridge University, 1985). On midwives as "doctors," see Mary E. Fissell, *Patients, Power, and the Poor in Eighteenth-Century Bristol* (Cambridge: Cambridge University, 1991), pp. 58–59.

[7] On the numbers and education of Massachusetts medical practitioners, see Eric Christianson, "Individuals in the Healing Arts and the Emergence of a Medical Community in Massachusetts, 1700–92: A Collective Biography" (Ph.D. diss., University of Southern California, 1976), pp. 85, 112 and "The Medical Practitioners of Massachusetts, 1630–1800: Patterns of Change and Continuity," in *Medicine in Colonial Massachusetts, 1620–1820,* eds. J. Worth Estes, Philip Cash, and Eric H. Christianson (Boston: The Colonial Society of Massachusetts, 1980), pp. 53–54; 57–58. On Harvard and medical education, see C. Helen Brock, "The Influence of Europe on Colonial Massachusetts Medicine," in *Medicine in Colonial Massachusetts*, pp. 103–06, and Richard Harrison Shryock, *Medicine and Society in America, 1660–1860* (New York: New York University Press, 1960), pp. 25–26.

medical libraries, and observed various illnesses in their pastoral visits to the sick.[8]

Midwives were also familiar and respected figures, who did not always limit their practice to birthing, or even "the diseases of women," as demonstrated by the "general practice" of Martha Ballard of Hollowell, Maine. There were other recognized female healers. Elizabeth Greenleaf ran her own apothecary shop in Boston. Boston shopkeeper Benjamin Walker sought "Mrs. Street" (formerly, Mrs. Abigail Willard) to heal his brother's legs when the treatment of Dr. George Stuart failed.[9]

Walker does not record whether Mrs. Street was a paid practitioner. Indeed, there was no clear demarcation between the "professional" and unpaid "domestic" healer. Wives often looked on domestic medicine as a traditional duty, their recipe and commonplace books bearing witness to what Patricia Watson has called "a remarkable medical network." Men from various classes and occupations also shared in this exchange. Indeed, paid practitioners and unpaid domestic healers exchanged knowledge within a common medical milieu. The competent, experienced, and well-read doctor might well earn much respect and patronage within his community, but not any exclusive right to practice physic.[10]

Certain medical practitioners in early eighteenth-century Massachusetts wished to change this. They saw themselves as the true physicians who needed to protect their practice and their public from meddlesome "quacks" and other untrained "irregulars." Heading this effort was Dr. William Douglas, who created the Bos-

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[8] Patricia A. Watson, *The Angelical Conjunction: The Preacher-Physicians of Colonial New England* (Knoxville: University of Tennessee, 1991), pp. 36–96.

[9] Laurel Thatcher Ulrich, *A Midwife's Tale: The Life of Martha Ballard, Based on Her Diary, 1785–1812* (New York, Knopf, 1990), pp. 40–71; 248–61. Patricia A. Watson, "The 'Hidden Ones': Women and Healing in Colonial New England," *Medicine and Healing*, The Dublin Seminar for New England Folklife, Annual Proceedings 1990, vol. 15 (Boston: Boston University, 1990), p. 25. Barbara McLean Ward, "Medicine and Disease in the Diary of Benjamin Walker, Shopkeeper of Boston," *Medicine and Healing*, p. 48.

[10] Watson, "Hidden Ones," p. 33. The first three volumes of Rev. Ebenezer Parkman's diary (1719–1755) illustrate this conclusion concerning the regard commonly given doctors. Parkman often used the services of various local doctors, especially his brother-in-law, Benjamin Gott. He also called other medical practitioners, including the midwife, Mrs. Forbush. And he frequently provided medical care for his family and his parishioners. See *The Diary of Ebenezer Parkman, 1703–1782*, First Part: *1719–1755*, ed. Francis G. Walett (Worcester: American Antiquarian Society, 1974); and Rose Lockwood, "Birth, Illness and Death in 18th-Century New England," *Journal of Social History* 12 (1978): 118–23.

ton Medical Society in 1735 to distinguish true doctors from the common, self-taught "empiric." Membership was limited to college graduates who had completed medical apprenticeships or received medical training in Europe. In 1738, Douglas sought to give professional boundaries some teeth by proposing a statute which would require practitioners to pass an examination. Though this law was not enacted and the Boston Medical Society folded shortly after Douglas's death, other doctors made similar efforts to organize and regulate medical practice.[11]

Ames's proverbs against "quacks" show that he identified with this drive for professional identity. His main contributions to this effort would not be in attacking so-called quacks, but in defining appropriate roles for doctors and lay persons. For Ames, this was a consistent though not a constant theme, appearing in four separate texts dispersed throughout his thirty-nine almanacs.

Guiding the Doctors: Ames and the Inoculators

In his *Astronomical Diary* for 1761, Ames challenged some fellow practitioners in an article on smallpox and inoculation.[12] The tenuous nature of the doctors' authority in Massachusetts was revealed in a unique way by the history of inoculation there. By 1761, most learned doctors accepted inoculation as a method for avoiding a mortal case of small pox by artificially receiving a mild one. Boston played a proud part in winning this acceptance. During the epidemic of 1721–22, Dr. Zabdiel Boylston conducted a vast inoculation experiment in and around Boston, inoculating 287 persons over a ten-month period. It was the largest experiment in the Western world to that time, and helped establish the usefulness of the practice.[13]

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[11] For a short history of early Massachusetts medical societies, see Eric H. Christianson, "Medicine in New England," in *Medicine in the New World: New Spain, New France, and New England,* ed. Ronald L. Numbers (Knoxville: University of Tennessee, 1987), pp. 129–137.

[12] References to Ames in this section are taken from "On the Small-Pox," in *An Astronomical Diary for . . . 1761* (Boston: John Draper, [1760]).

[13] On the increasing acceptance of inoculation in Europe and America, see F. Fenner et al., *Smallpox and its Eradication* (Geneva: World Health Organization, 1988), pp. 253–57. The number of inoculees and the time span of Boylston's experiment come from John B. Blake, *Public Health in the Town of Boston, 1630–1822* (Cambridge: Harvard, 1959), pp. 55–62, 244. On the influence of the Boston experiment on England, see Raymond Stearns, "Introduction of Inoculation for the Smallpox in England," *Bulletin of the History of Medicine* 24 (1950): 117 and Otho T. Beall, Jr. and Richard H. Shryock, *Cotton Mather: First Significant Figure in American Medicine* (Baltimore: Johns Hopkins, 1954) pp. 118–21.

Boylston, however, began his practice only at the strong urging of Rev. Cotton Mather, the driving force behind the experiment. The majority of Boston's doctors opposed the practice, led by their university-trained colleague, William Douglas. Douglas began a newspaper and pamphlet war, in which both sides indulged in character assassination. Douglas, for his part, denounced Mather as an incredulous, meddling cleric and Boylston as a quack. Seventeen twenty-one also saw Douglas's first attempt to organize a medical society, or "Club of Physicians," seemingly for the purpose of opposing inoculation. The first visible signs of a unified, professional consciousness among Boston's doctors began with their opposition to what was later praised as pre-revolutionary Boston's most heralded contribution to the advancement of medicine.[14]

Though one historian labels Nathaniel Ames a "staunch supporter of inoculation," the 1761 article shows him to be ambivalent.[15] Ames acknowledges that "many have lately practiced" inoculation "with surprizing success," yet he proceeds to play down its importance. The efficacy of the practice is actually provided by the dose of mercury used to prepare the body for inoculation. Mercury, by its "Minuteness and Gravity" and "Sphericity of its Particles" has "Power to break and divide the Corrosiveness and Pointedness of the Salts in the Blood" which Ames believed caused the ill effects of the disease.[16] Mercury,

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[14] For Douglas's opinion of Boylston and Mather, see his *The Abuses and Scandals of Some Late Pamphlets in Favour of Inoculation of the Small-pox, Modestly Obviated, and Inoculation Further Considered in a Letter to A-S-M.D. and F. R. S. in London* (Boston: J. Franklin, 1722), pp. 6, 8; and *A Dissertation Concerning the Inoculation of the Small-Pox. Giving Some Account to the Rise, Progress, Success, Advantages, and Disadvantages of Receiving the Small Pox by Incisions; Illustrated by Sundry Cases of the Inoculated* (Boston: Henchman, 1730), pp. 7–8. See Christianson, "Medicine in New England," p. 127 for the date of the Club of Physicians and *The Boston Gazette*, 93 (August 28, 1721) for a member's explanation of their anti-inoculation stance. For an interpretation of the controversy as one of professional conflict, see Maxine Van De Wetering, "A Reconsideration of the Inoculation Controversy," *New England Quarterly* 58 (1985): 46–65.

[15] Bernhard, *Fisher Ames*, pp. 13–14.

[16] Ames's complete "conjecture" as to the cause of smallpox is as follows: a subtle effluvium, transmitted through direct contact with an infected person, enters the bodily fluids and through "fermentation or some mechanical operation" causes certain salts in the blood to "become like points of Thorns" which damage the body. The pox are caused by the body seeking to expel these through the skin. This explanation conformed to current iatromechanical theories. Ames probably did not know about Cotton Mather's theory that microscopic "animaculae" caused the smallpox. See Beall and Shryock, *Cotton Mather*, pp. 87–92. On iatromechanical theory, see Lester King, *The Philosophy of Medicine: The Early Eighteenth Century* (Cambridge: Harvard, 1978), pp. 95–124.

however, must be given at the proper time prior to the onset of the disease, "otherwise it will no more avail than an Engine would extinguish Fire in a Dwelling that was filled with combustible matter." Ames turns inoculation into a timing device, which allows doctors to treat their patients with mercury just before the onset of the disease, thereby "lighten[ing] the Distemper to almost nothing." Indeed, "if the Body be rightly prepared," Ames believes it does not matter whether the smallpox is received by "Inoculation, or the Natural Way."

Ames's criticism of current inoculation doctors concerns the way they market mercury preparation. Some, out of "selfish Views make a great secret of the Method" by which they "lighten" the pox. Yet Ames knows that "their whole Dependence is on Calomel or some Preparation of Mercury." Ames implies these practitioners act like quacks, claiming common medical knowledge as their "secret." He also hints that this will encourage "ignorant quacks" to join in the game and hawk their own "secret" method of inoculation. This is a dangerous prospect since "the free Use of Mercury in such Hands, would be as dangerous as the pox itself."[17] By exposing the inoculation doctors' ruse and informing his readers about mercury preparation, Ames seeks to make it more difficult for "quacks" to claim this procedure as their secret.[18]

Guiding the Laity

Ames did not see the boundaries of the doctors' practice challenged only by quacks or doctors who played the quack. Lay peoples' mis-

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[17] The problem of mercury overdosing was known in the eighteenth-century. Charles Rosenberg points out that William Buchan's *Domestic Medicine* (1769), which some physicians thought gave too free a hand to domestic healers, made mercury the "pragmatic line between the appropriate competencies of laymen and physicians." See "Medical Text and Social Context: Explaining William Buchan's *Domestic Medicine*," *Bulletin of the History of Medicine* 57 (1983): 29. Yet, not everyone knew of the danger. *Bickerstaff's Boston Almanac for . . . 1772* (Boston: Fleeming, [1771]) contains a recipe for a "Poor Man's Medicine" which is mercury and water boiled together. The recipe recommends that readers make it their "diet drink," and drink it "as much and as often as you please."

[18] It is difficult to pinpoint who these inoculation doctors were. Printed advertisements for special methods of inoculation did not appear in the Massachusetts press until Dr. Latham's ad for the "Suttonian Method" in *The Boston Gazette* 29 April 1771. Nor were doctors likely to make a practice of verbally hawking "secret" inoculation methods, given that the General Court had banned the practice save for times of epidemic. Perhaps the public rush to receive inoculation during the Charleston epidemic encouraged some doctors to actively compete for patients. See Blake, *Public Health in Boston*, pp. 77–98 and John Duffy, *Epidemics in Colonial America* (Baton Rouge: Louisiana State University, 1953), pp. 36–41.

appropriation of medical knowledge is the subject of three separate texts, coming from the beginning, middle, and end of his almanac-making career.

I. The Foolish Drinker

In his almanac for 1752, Ames attacks his countrymens' copious consumption of alcohol. Pleas for temperance were standard fare for contemporary regimen and advice books. Ames's treatment of the topic, however, transcends the usual "physician's complaint" by defining a hypothetical regulatory role for the doctor.[19]

Ames argues from a historical motif: the decline of health since a golden age of the past. The Biblical "Antediluvians," the people prior to the Genesis flood, reportedly lived for several centuries. They "had not learned the Art of Intemperance," eating meat and drinking spirits. When men came to eat meat "their 900 Years dwindled away to Threescore and ten."[20]

Ames also appeals to an unidentified time in English history, when society was better ordered. Patients obeyed their doctors even in personal habits, so that "strong waters were . . . used only by the directions of Physicians." He also hints that the upper orders regulated the habits of the lower orders, "but now Mechanicks and Low-liv'd Labourers drink RUM like fountain-Water" like their "idle, unactive and sedentary" betters.[21]

Doctors no longer have this power to regulate strong drinks, so Ames seeks to persuade his readers by dire warning and expert witness that "DEATH is in the Bottom of the Cup." Dr. George Cheyne, author of popular health advice books, is his expert. Cheyne declares rum a poison, as certain as the potent but deadly medicines, laudanum and arsenic. Perhaps the simple purity of the ancients, who lived for centuries without physicians, cannot be re-

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[19] References to Ames in this section come from *An Astronomical Diary; or an Almanac for . . . 1752* (Boston: Draper, [1751]). On the contents of regimen books, see Ginnie Smith, "Prescribing the Rules of Health: Self-Help and Advice in the Late-Eighteenth Century," in *Patients and Practitioners: Lay Perceptions of Medicine in Preindustrial Society,* ed. Roy Porter (Cambridge: Cambridge University, 1985), pp. 256–62, 269–79.

[20] See the genealogy in Genesis 5. Psalm 90:10 (AV) sets the normal limit of human life at "threescore years and ten."

[21] English social commentators frequently talked about the decline of deference. See E. P. Thompson, "Patrician Society, Plebeian Culture," *Journal of Social History* 7 (1974): 382–86.

captured. But temperance in eating and drinking could help people obtain the "Span of Life alloted for the present Age."[22]

Though promoting temperance is Ames's main point, there is a secondary theme: lay people's use of a powerful chemical according to their own discretion. To Ames, this had not been a successful experience in the history of human health. He offers no concrete proposals for making strong drinks again subject to a doctor's prescription. Yet the implication remains: folks would be healthier if doctors had control over such powerful substances.

II. Lay Women and Medical Practice: The Ignorant Nurse

In his almanac for 1736, Ames centers on a particular lay practitioner—the nurse. Nursing as an organized medical craft or profession is a nineteenth- and twentieth-century phenomena. What Ames means here by "nurse" can be found in the first two definitions of the word in Johnson's *Dictionary*: "a woman who has control of another's child" and "a woman that has care of a sick person." This is a "nurse-as-child-rearer" practicing domestic medicine in lieu of the mother. In this text, Ames seeks to show that nurses lack the medical understanding to use even their best remedies effectively.

> Some Nurses are so Superstitious, That they dare not give their children Worm-seed without pounding and sifting of it; assuming that every Seed that escapes being bruised in the Mortar will become a live worm in the bowels of the Child. But, by and by, it is an excellent Medicine for that purpose, and they need not be afraid to use it.[23]

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[22] George Cheyne, *An Essay on Health and Long Life* (London: Strahan, 1724), p. 54. Other popular health works by Cheyne include *An Essay on Regimen* (London: C. Rivington and J. Leake, 1742) and *The English Malady; or Treatise of Nervous Diseases of All Kinds* (London: Strahan, 1733).

"Temperance" is used here in the eighteenth-century sense of "Moderation; opposed to gluttony and drunkenness" (Samuel Johnson, *A Dictionary of the English Language* [London: Strahan, 1755; reprint, London: Times Books, 1983]). This emphasis on temperance seems contradictory to Ames's role as a proprietor of an inn. Ames reconciled his roles as inn-keeper and doctor by recommending "modern punch," a drink which "may sooner hurt [the drunkard's] Belly than his Brains" ("A Page for the Gentlemen," *An Astronomical Diary for . . . 1764* [Boston: Draper, Edes and Gill, Green and Russell, (1763)]).

[23] Johnson, *Dictionary,* s.v. "Nurse." All references to Ames in this section are from *An Astronomical Diary for . . . 1736* (Boston: Draper, [1735]).

Like quacks or empirics, nurses know specific remedies but have no understanding of medicine. In the case of worm seed, their ignorance may even dissuade them from using the knowledge they have. Thus, Dr. Ames gives them expert guidance and reassurance.

How accurate was Ames's information concerning the medical beliefs of "some nurses"? Ames says nothing of his sources of information. Perhaps something can be learned of the likelihood of this "superstition" by examining the use of "worm seed" within the domestic medical tradition. Worm seed was the common name of two well-known specifics for worms.[24] At least one domestic recipe book used in Massachusetts has a recipe that calls for ground worm seed. It is a manuscript cookbook which was in the possession of Mary Peters Brigham of Groton, Massachusetts by 1730, but was compiled circa 1650 in England by an Anna Cromwell. The recipe combines worm seed, rhubarb, senna, burnt hartshorn, and corrafine with honey in a recipe against worms. The recipe calls for *all* the dry ingredients, including the worm seed, to be ground. This seems like a practical recommendation to allow the honey to coat these less palatable substances.[25] Perhaps Ames misunderstood why the nurses ground worm seed. Perhaps he was the "ignorant" party.

Ames places this discussion in the wider context of the contemporary debate over the role of the sexes in the generation of animals. Ames states that "the Learned have sufficiently exploded the Notion of an equivocal or spontaneous Generation of Animals, and will not allow the vilest and most contemptible Insect to be generated without Parents, Male and Female, of the same Kind." This is in contrast to "vulgar Error" of superstitious nurses that "Heads and Clothes of uncleanly People, do breed Lice, that Mites are bred in Cheese, and that Worm-seed breeds as many worms as it kills." Ingestion of unseen larvae explains the appearance of worms within people. Ames also claims it is attested by both "reason and Experiments" that "every Animal proceeds from a Pre-existent *Animalcula in semine masculine*, and that all the Parts of an Animal did exist, and its Fluids were in motion before Generation, and that the Females afforded nothing in the production of their young ones, but

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[24] Botrys, a specific for hookworms, and santonicum, a specific for round worms, were both referred to as "wormseed." See J. Worth Estes, *Dictionary of Protopharmacology: Therapeutic Practices, 1700–1850* (Canton, MA: Science History Publications, 1990), pp. 30, 172, 210.

[25] Charles Brigham Account Book, section 3, no. 153, ms. American Antiquarian Society. See also David McCarter, "The Cookbook of Anna Cromwell: Medical Authority and Empirical Chemistry in a Feminine Voice" (Unpublished paper, 1994).

a proper *Nidus* where their Parts increase in Magnitude as they receive nourishment."

Again, Ames calls forth a scientific authority to shore up his position: "Dr. C. Mather," or the Rev. Cotton Mather. Despite Ames's doubts on inoculation, he respected Mather as an authority on natural philosophy.[26] Ames takes Mather's observations that each species of animal is structurally distinct and that members of a species only produce others of their own species to conclude that "all Animals are univocally produced."[27] What Ames states as certain was actually the subject of a great debate during the seventeenth and eighteenth centuries: animaculism versus ovism. These were new preformationist theories which arose after the discovery of the male spermatozoa with the aid of the microscope. Having found at least the male "animalcule" responsible for conception, and hypothesizing that the female must provide an ovum, or egg, to receive it, medical men of the late seventeenth century thought one of the two cells must contain the entire new being in miniature. Ovists believed it was the female who contributed the preformed person, while animalculists credited this to the male.[28] Animalculist theory provides Ames with scientific grounding for the gender hierarchy he assumes as he juxtaposes the "ignorant," female nurses against "learned" males such as Mather and himself. Since the "male plant impregns the softer kind," the male naturally sets the pattern for life, according to "the great Jehovah's forming wisdom."

This is an early example of what Londa Schiebinger has called the "triumph of complementarity." By appealing to male superiority in human anatomy and physiology, late eighteenth-century *philosophes* were able to uphold sexual hierarchy as "natural," while challenging old class distinctions with an appeal to the "natural rights of Man."[29] Though Ames felt little need to challenge pre-

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[26] See *An Astronomical Diary for . . . 1733* (Boston: B. Green, [1732]) and *An Astronomical Diary for . . . 1749* (Boston: J. Draper, [1748]) for other citations of Mather.
[27] The passage is from *The Christian Philosopher: A Collection of the Best Discoveries in Nature, with Religious Improvements* (London: Eman. Matthews, 1721; reprint, ed. Winton U. Solberg [Urbana: University of Illinois, 1994]) sec. 27. 85. Ames's whole discussion closely follows sec. 27.50–94. Mather was uncertain about the origins of worms in children: "How these *Worms* come to be lodge'd in Human *Bodies*, (which way the *Eggs* convey'd thither?) when its found, that *Unborn Infants* have had them, has been yett scarce accounted for" (*Angel of Bethesda*, ed. Gordon W. Jones [Barre, MA: American Antiquarian Society and Barre Publishers, 1972], p. 203).
[28] Londa Schiebinger, *The Mind Has No Sex?: Women in the Origins of Modern Science* (Cambridge: Harvard, 1989), pp. 179–80.
[29] Ibid., pp. 214–16.

vailing hierarchies, he did wish to keep women who would presume to practice physic in their place. In univocal production, Ames grounded male medical leadership in the ways of nature itself.

III. Tea, Nursing, and the Medical Oversight of Women's Lives

In his almanac for 1762, Ames again places women's healing and children's health under the oversight of the learned, male doctor. The article is entitled "A Page for the Ladies.—On TEA.—On Nursing Children." Ames links these two seemingly dissimilar topics by dubbing them the twin "loves" of the ladies—after all, "the idea of Love and the Ladies are so connected." Here, Ames adopts one of the "polarities of gender" frequently made by male writers of the eighteenth century, female affection versus male rationality.[30]

Ames implies something is wrong with the affections of these upper class women. They place tea and the "friendly visits," or socializing that goes with it, above the welfare of their own offspring. Traditionally the love of a mother for a child was held to be the strongest of ties, grounded in nature itself.[31] Ames hints that fashion is corrupting this natural feminine virtue among the urbane women of New England. They need someone to redirect them, so that their children will again be their first love.

But first, Ames judiciously praises the ladies. Tea, in and of itself, has positive virtues, especially when compared with the "drams" the gentlemen often drink. Tea drinking discourages dram drinking, even as "naturalists observe . . . Wormwood and Horehound will not grow together." Also, "tea is a Friend to the Muses,

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[30] All references in this section are to Nathaniel Ames, *An Astronomical Diary, or Almanac for . . . 1762* (Boston: Draper, [1761]). On the polarities of gender, see Ludmilla Jordanova, "Natural Facts: An Historical Perspective on Science and Sexuality," in *Sexual Visions: Images of Gender in Science and Medicine between the Eighteenth and Twentieth Centuries* (New York: Harvester Wheatsheaf, 1989), pp. 20, 31. During the last quarter of the century, writers and critics of popular sentimental novels emphasized the power of feminine emotions as a social force to be reckoned with. See Cathy Davidson, *Revolution and the Word: The Rise of the Novel in America* (Oxford: Oxford University, 1986), pp. 40–52.

[31] The author of the handbook for parish officials, *An Ease for Overseers,* made such natural affection the basis for the parishes' responsibility to those "lefte fatherless and motherlesse: for if the bird will cherish her yong till they bee able to flie, we are bound by nature to nourish these till they are able to shift." *An Ease for Overseers of the Poore Abstracted from the Statutes* (Cambridge: J. Legat, 1606), p. 25.

it brightens the Intellects, and clears the Understanding;" it "keeps the Body light and easy, while it sensibly satisfys the Hunger." And tea, especially green tea, possesses "medicinal virtues." Thus, the ladies' choice of a social drink is far more sensible than the gentlemen's. Women chose something which helps both the mind and the body, while men chose spirituous liquors, which "murders Soul, Body, Estate and Reputation."

There are two objections to tea. First, some feel that tea "hurts" their nerves. Ames counters that tea "serves only as a Glass which truly represents the State of that curious Frame that joins soul and body together, the Nerves." It only reveals weaknesses latent within the nerves, weaknesses caused by venereal disease , or "a weak state of nature" perhaps caused by the "parents misconduct." Second, there is a political objection to tea: "the utility of so great a Consumption of a foreign Commodity." Here Ames refers to a popular "mercantilist" assumption of the era: that imports of foreign "luxuries" produce an unfavorable trade balance and therefore decrease natural wealth.[32] At first, Ames claims that he does not "meddle . . . with Politicks" and therefore "shall not pretend to answer this objection." As a doctor fighting medical pretense, it would hurt his cause to meddle in matters outside his expertise. Yet Ames meddles with the politics of tea in the very next sentence: "The Tea Pot, like the Widow's Cruise of Oil, receives only hot Water, and emits a pure alimentary Liquor, and continue[s] to do so after several Repetitions." The "widow's cruse" is a reference to I Kings 17, where the prophet Elijah asks a widow for her last bit of bread during a famine. The prophet told her not to fear, since Yahweh decreed that there would be meal in her barrel and oil in her cruse until the end of the famine. Thus, both the widow's gift and God's blessing are outside of normal economic considerations.

Ladies' teapots should also be excluded from matters of money and politics. The small amounts of tea leaf used by ladies cannot possibly make or break the trade of the empire. Tea drinking is not to be measured in terms of economy, but in terms of charity. Thus, Ames isolates the social world of women—the realm of charity and the affections—from male political and economic discourse.

Child rearing, however, cannot be isolated from the guidance of

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[32] On "mercantilist" economics, see D. C. Coleman, *The Economy of England, 1450–1750* (London: Oxford, 1977), pp. 24–77, and also Terence Hutchinson, *Before Adam Smith: The Emergence of Political Economy, 1662–1776* (Oxford: Basil Blackwell, 1988), pp. 22, 23, 53, 88–90, 173–74, 197.

the male doctor. Mothers' reliance on nurses contributes to the ill health and premature death of young children through the practices of wet-nursing, rough handling, and swaddling. Unlike female social gatherings, the home of a young child cannot be treated as an island unto itself. Despite Creation's perfection, human error causes "so great a Part of the Human Race" to "perish in a State of Infancy." Ames sees nursing as related to the social world of women. Mothers put their infants out to nurse "for the Preservation of . . . Beauty, and fine Shape of Body." Unhappily, this "error in judgement" is likely to have the opposite effect. The "violence to nature" caused by unnaturally drying up a woman's breast will expose her to "Diseases as may marr her Beauty and Shape both." Here, Ames echos themes often found in European medical tracts. Linnaeus, Rousseau, Marie Anel de Robours, and William Cadogan all published pamphlets praising breast-feeding as natural and condemning wet-nursing. Rousseau states directly what Ames implies: womens' social pretensions keep them from feeding their children from their own breast. There is, however, no note of sacrifice in Ames, as when Cadogan encourages women to "give up 'a little beauty of [the] breast,'" nor does Ames note, as does Linnaeus, that many women believe that nursing robs them of vital fluids. For Ames, nursing is a positive preservation for health and beauty.[33]

As with his European counterparts, Ames's main interest is the infant. Ames devotes two sentences to the mother's health and the balance of the one and a half page section to the child. Again, Nature shows mothers the way. Mother and child are of "the same blood, and nature had provided a Store from the same Fountain for [the child's] future Nourishment and Growth." The mother's milk is "congenial" to the "nature" of the child, whereas a nurse differs "in Constitution." Moreover, nurses practice bad regimen. A goat would be preferable to many a human nurse, its "tender browse" and draughts at the "cool fountain" being far better than the aliments of many nurses: "foul" food and "that Liquor, which can and often does kill the Infant at second hand." Apparently, Ames believed that strong drinks could contaminate breast milk. Therefore, "persons of quality" should always insure that their nurse is "under the strictest Regimen by the Direction of the most eminent and learned Physicians."

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[33] William Cadogan, quoted in Londa Schiebinger, "Why Mammals are Called Mammals: Gender Politics in Eighteenth-Century Natural History," *The American Historical Review* 98 (1993): 408. See also pp. 404–09.

As Ames turns from the feeding of infants to their handling, his image of the nurse changes from ignorant to cruel. Too often, he states, the "delicate Machine" of the infant is "jounced on hard knees," or "handled with rough fingers" by mother as well as nurse, so that "it is a Wonder that there are no more crooked Limbs, dislocated Joints, and Cripples from Infancy." Unlike nurses, mothers mishandle their children out of "ignorance" rather than cruelty. This cruelty and ignorance on the part of women contrasts to the design of the "indulgent Creator," who fashions each human with "infinite Perfection" and the care of Nature, who "provided wonderfully for our Preservation in her soft and easy Lap."

Ironically, a mother's natural affection is often not enough to ensure the proper treatment of children. As "Naturalists observe":

> The Hen is the fondest of Her young ones of any Animal; but how many of the tender Brood perish in a cool Morning for Want of the Mother's indulgent care: So some Mothers, though they love their Infants, hardly discover common Sense in their Treatment of them. Many Infants are sick, and many die with the unsuitable Aliment they receive by the Hand, or at second Hand, from the Breast.

Mothers need expert advice, so that they will act in accordance with Nature whose ways are open to the learned doctor. Ames would like to offer the needed information "according to my talent," but fears he would "swell these pages into a volume," so vast is the ignorance of women on child care.

There is one last "special Matter" Ames must write against: swaddling infants. For this attack, Ames turns to another learned expert: "Dr. Hales," actually the Reverend Stephen Hales, best known for his statistical studies of hydrostatics in plants and animals.[34] Ames cites Hales as claiming that swaddling restricts both the intake of air and the "kneedings of the Middriff on the stomach" in the infant so that "not only its breathing, but Digestion also, are thereby greatly incommoded." For those who would doubt that these kneadings are important to infant digestion, Hales notes that

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[34] Stephen Hales was most famous for his two volumes of *Statistical Essays*, separately titled *Vegetable Statisticks* (London: W. Innys, etc., 1727) and *Haemastaticks* (London: W. Innys, etc., 1733). To those who knew of his ground-breaking work on the measurement of blood pressure and the volume of air in respiration, he would be the perfect witness to the harmful effects of swaddling. Unfortunately, I have been unable to locate the source for Ames's quotations.

they occur at a rate of twelve hundred per hour, and that when they abate, so does the rate of digestion.

Who is responsible for this unfortunate "Conduct" of the "Ladies" toward their infants? Ames makes no direct accusations, but the closing remarks, by Dr. Hales, hint as to the likely source of such nonsense. "Ignorant nurses" take the natural soft spot in infants for a "great Defect in Nature," a nearly blasphemous denial of the goodness of the Creator. Thus, they often attempt to "close the Mould of the Head, as they call it . . . by stroking and bandage . . . not knowing that the intermediate soft Parts will turn to bone." Nurses are the swaddling advocates, extending the practice to even the head. The consequences of this treatment are "fits and Head-Aches during life, & c." If grinding wormseed demonstrates a harmless superstition, this practice reveals one which results in lasting damage.

On behalf of these infants, the learned Dr. Ames feels he must intrude into the social world of "the Ladies." For their love of tea, they are too apt to leave their babies in the care of ignorant and/or cruel nurses. And even when they forsake the party to mother their children themselves, they too often also prove ignorant. The solution to this dilemma? For elite women to follow the advice of Ames and his medical authorities in the care and feeding of their infants.

There is one final question which both this article and that of the 1736 almanac raise: Why did Ames focus on nurses? To be sure, wet nursing remained a popular practice through the 1760s.[35] Yet Ames's focus is more on the nurse as a nanny. Though many households would have had a domestic servant or two, having one whose sole duties focused on child care would have been limited to the elite. Ames certainly counted the elite among his customers. Yet the majority of his customers were likely to have been from families in more humble, though not impoverished, circumstances. In such a household, mothers and not nurses would have had the primary responsibility for child care. They would also have been the healers of first resort when illness struck.[36]

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[35] See Valerie Fildes, "Wet Nursing in Colonial America" in *Wet Nursing: A History from Antiquity to the Present* (Oxford: Basil Blackwell, 1988), pp. 130–37.

[36] On female servants and household labor in early eighteenth-century New England, see Laurel Thatcher Ulrich, *Goodwives: Image and Reality in the Lives of Women in Northern New England 1650–1750* (New York: Knopf, 1982), pp. 58, 238 and Jane C. Nylander, *Our Own Snug Fireside: Images of the New England Home 1760–1860* (New York: Knopf, 1993), pp. 41–53.

So, who is Ames's real target in these articles? The nurses that a few of his readers employed, or the whole common tradition of medical knowledge shared by housewives, nurses, and midwives? By contrasting ignorant and superstitious nurses to the learned and humane doctors, Ames attacks traditional healing without directly attacking most of the women who practiced it.

Conclusion

Nathaniel Ames used the pages of his popular almanacs to extend the early efforts of New England's "learned doctors" to define their "profession." Not content to define and attack "quackery," he sought to draw boundaries around appropriate practices for the physician and lay person. Doctors were to stop "making a secret" of medical knowledge; honest, open practice would discourage the quacks' deceit. Lay people were to listen to the learned physicians in medical matters. Perhaps it was too late to expect strong drink to once again be treated as a medicine under a physician's control, or even for many to heed the doctors' call for temperance. But mothers could be made aware of the superstition and cruelty of nurses and of their own negligence toward their children, and take to heart the advice of "learned doctors," like Nathaniel Ames. What of other female practitioners, especially the familiar midwife? They are not mentioned. For Ames, the ignorant nurse was the appropriate symbol of women who presumed to concern themselves with medicine.

P.O. Box 503
Erie, IL 61250

Naval Medicine in Philadelphia, 1815–1840

Harold D. Langley

The United States Navy began as the result of an undeclared war with France in the West Indies in 1798. Three frigates that were being built under War Department auspices since 1794 were completed and merchant ships were purchased, modified, armed for naval purposes, and sent to sea. Medical officers had to be acquired quickly along with crews. For the most part they were young men who had recently completed apprenticeships with physicians. A few were graduates of medical schools, some had only just begun the study of medicine. Once in the navy, however, all were expected to be able to function as both physicians and surgeons. No sooner did this war end than another broke out with the Barbary Pirates of North Africa. This ended in 1807, and a few years later the navy again found itself engaged in a war, this time with Great Britain.[1]

During the War of 1812 senior U.S. Navy medical officers, who held the rank of surgeon, became concerned about the outlook of some of their younger subordinates, who were designated as surgeon's mates. After the war they worked for the adoption of regulations whereby all candidates for commissions at the entry level of surgeon's mate would be required to have a degree from a medical school, a license to practice from a recognized medical body, and to pass an examination given by a medical board made up of navy surgeons. These reforms were implemented in 1824, but the task of raising the level of professional knowledge was made possible in part through the influence of surgeon Thomas Harris.[2]

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[1] Except as otherwise noted the sources for this paper are the official records of the U.S. Navy Department in the National Archives. Most of the pertinent ones have been filmed in chronological order by the date of the letter. These are: Letters to the Secretary of the Navy from Officers below the Rank of Commander, Microcopy M-148, hereafter cited as M-148; Letters from the Secretary of the Navy to Officers, Microcopy M-149, hereafter cited as M-149.

[2] In 1818 the Board of Navy Commissioners, an advisory body composed of three captains, drew up a code of regulations which was submitted to Congress but not acted upon, despite the appeals of various secretaries. They were, however, followed in the Navy. For a text of these regulations see U.S. Congress, *American State Papers: Naval Affairs;* 4 vols. (Washington, 1834–1861), I, pp. 524–526.

Harris had received his medical degree from the University of Pennsylvania in 1809, and apparently had engaged in private practice in Philadelphia before entering the navy as a surgeon in July 1812. The United States was then at war with Great Britain, and during that conflict Harris served on the sloop of war *Wasp* in its victory over HMS *Frolic* in October 1812. After the battle Harris had a large number of British wounded to care for in contrast to only a few Americans. Subsequently the *Wasp* and its prize were captured by a British ship and taken to Bermuda. Later exchanged, Harris spent the rest of the War of 1812 on duty on Lake Ontario. After a brief period of active service against the Algerian pirates, Harris was assigned to the hospital at the Philadelphia Navy Yard. While stationed at the Philadelphia Navy Yard, Harris began to give private instruction to civilians who were interested in preparing for medical careers. Such outside employment and private practice were acceptable only if the doctor had the permission of his commanding officer and if his personal work did not interfere with his official duties. Harris was conscious of the need to keep abreast of developments in his profession, and his teaching was a means of doing so.[3]

In 1822 Harris opened a dissecting room where his private students could work on cadavers. It was here that he gave a course on operative surgery and lectured on medical subjects. Harris invited his naval medical colleagues to attend the lectures and the course without cost. They did so, and at the end of the course the surgeons and the surgeon's mates asked Harris if he would be willing to give the course under government auspices. These officers expressed a desire to improve themselves professionally, but the naval pay they received was too small to allow them to take any course work at the University of Pennsylvania. What they needed were refresher courses to prepare them for examinations. Such courses would give them an opportunity to improve their knowledge of anatomy and of surgical operations by working on cadavers, as well as information that was applicable to duties in ships and navy yards. Instruction in such subjects was available at naval institutions in Europe, but there was nothing equivalent in the United States.

Harris was willing to try, and he explored the idea with Thomas Tickell Hewson, professor of comparative anatomy at the University of Pennsylvania, and with other medical colleagues in Philadelphia. Encouraged by what he had learned, Harris wrote to the Secretary of

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[3] Lewis A. Roddis, "Thomas Harris, M.D., Naval Surgeon and Founder of the First School of Naval Medicine in the New World," *Journal of the History of Medicine and Allied Sciences* 5 (1950): 236–250.

the Navy, Smith Thompson, for permission to give a series of lectures on nautical medicine, anatomy, and dissections. Harris told Thompson that he would superintend all the work and furnish the medical books and journals from his private library, and the University of Pennsylvania would supply the cadavers for dissection. In addition, Harris continued, naval officers would have the privilege of attending some of the lectures in the medical school at the University of Pennsylvania. Along with his proposal, Harris enclosed supporting letters from the professors of anatomy, pharmacy, practical medicine and surgery of the university, as well as letters from naval surgeon Bailey Washington, then stationed at the Philadelphia Navy Yard, Commodore William Bainbridge, who was in charge of the yard, and a letter from three navy surgeons and three surgeon's mates urging him to institute the proposed course of lectures.[4]

Secretary Thompson thought the proposal had merit, and thus he approved it, giving Harris $400 to get the school started. Harris searched for a suitable house in the central part of Philadelphia where he could conduct his classes. He found one that he could rent for $250 a year, but he wanted to make some alterations. The landlord would not agree to the alterations, which would have cost about $100, without a five-year lease. Harris again wrote to the Secretary for approval to proceed. By this time, however, Thompson had resigned and Captain John Rodgers was the acting Secretary until a new head of the department arrived. Rodgers told Harris that he could not authorize the long-term lease nor any expenditure beyond what had already been approved. Rooms in which the lectures would take place were rented from Dr. Hewson. Whether he was the original landlord mentioned or a substitute cannot be ascertained. Whatever the situation was, Harris presumably worked with what he had, and made plans to begin course work in the fall of 1823.[5]

Before Harris's course could take place, however, an outbreak of yellow fever at Key West, Florida (then known as Thompson's Island) made it necessary for Secretary Samuel L. Southard to send Harris and other senior naval surgeons to the area to deal with the sick. By November 1823 the most serious cases had been trans-

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[4] Harris to Secretary of the Navy Abel Upshur, 26 January 1823, M-148, roll 150; Harris to Secretary of the Navy Smith Thompson, 10 May 1823, with enclosures, M-148, roll 31.

[5] Smith Thompson to Harris, 19 May 1823, M-149, roll 14; Harris to Thompson, 16 August 1823, M-148, roll 32; Rogers to Harris, 28 August 1823, M-149, roll 15; Harris to Upshur, 26 January 1843, M-148, roll 150.

ferred to facilities at Norfolk Navy Yard, and Harris returned to Philadelphia. He could not do very much in the way of instruction until the new Secretary granted leave or issued orders to various junior medical officers. That, in turn, depended on making decisions about various ships, squadrons, and officers. Meanwhile letters had been sent to the appropriate medical officers indicating that the first examination for promotion to the rank of surgeon was scheduled for 14 June 1824 in Philadelphia. Those anticipating examination were most anxious to get leave or shore assignments as soon as possible to prepare themselves. Inevitably only a few were ready, but five passed and were promoted. At this same period seven candidates passed the examination for surgeon's mate and were given commissions. In the absence of specific duty assignments, some of these new officers wanted to attend Harris's lectures to prepare themselves as surgeons, even though they would have to have at least two years of sea duty to qualify. But the Navy Department was most anxious to test the older surgeon's mates as soon as possible to determine their qualifications. Among this older group there were some who wanted to postpone the examination as long as possible.[6]

At the end of his first year of teaching the naval officers, Harris went to Washington to confer with Secretary Southard about the project. Southard heartily endorsed what had been done, and authorized another $400 to continue the education work. In return for the money, Harris was to submit an annual report on his activities and forward his vouchers to the Treasury Department for payment. This procedure was continued until 1829, when Southard's successor, John Branch, informed Harris that in the future money would be advanced only through legally authorized dispensing officers, in this case the purser of the Philadelphia Navy Yard.[7]

In 1826, there was an important change in the teaching arrangements when Harris was invited to give his lectures at the Medical Institute of Philadelphia. The Medical Institute had been established in 1817 by Drs. Nathaniel Chapman and William E. Horner of the University of Pennsylvania; it has been called "the first nondegree-granting medical school in Philadelphia." From his teaching experience at the University of Pennsylvania, the Pennsylvania Academy of Fine Arts and private instruction, Chapman had

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[6] Southard to Surgeon Edward Cutbush and others, 31 May 1824. For an example of Southard's effort to get older surgeon's mates to take the examination, see Southard to Surgeon's Mate William Belt, 15 February 1824, M-149, roll 15.

[7] Harris to Upshur, 26 January 1843, M-148, roll 150.

learned that the standard medical curriculum was insufficient to adequately prepare doctors for the challenges of private practice. The Medical Institute he established was to supplement the regular medical lectures at the University with a program of didactic and practical instruction for an entire year. It was not an effort to establish another medical school. By 1823 the Medical Institute had a staff of seven and a longer school term than the University of Pennsylvania. When Harris joined the Medical Institute as the professor of surgery, he saw in it the means of solving the problems that faced the medical men in the navy. As he later wrote to Secretary of the Navy, John Branch, "I became associated with the distinguished lecturers in the 'Medical Institute,' on condition that the medical officers of the Navy should receive the benefit of all the lectures in this institution without expense to them. By this arrangement they had access to a course of lectures of six months duration, and which embraces all the subjects connected with our extended and difficult science." Harris went on to say that "In the winter season I superintend their studies, furnish them with books and require them to submit to all the branches of medicine." These were the arrangements that Harris had worked out in Philadelphia.[8]

As these opportunities became known to medical officers of the navy through their colleagues, more and more sought orders to Philadelphia. Harris submitted annual reports on his teaching activities to the Secretary of the Navy, but most of these have not survived. Thus, the story of the operations of the medical school must be gleaned from references to it in the correspondence of Harris and those who attended his lectures and took his examinations, as well as from some of the vouchers submitted to the Treasury Department. The expense accounts submitted by Harris provide some intriguing insights into his own activities and how the $400 allowance was spent. One of these accounts shows that $200 was paid to Dr. Hewson for one year's rent "for lecture and dissecting rooms" dating from 1 July 1827. Another bill was sent from one B. Fields to the "U.S. Naval Medical School" for cadavers—which are described as "subjects"—costing $8 each. Two "subjects" were supplied in November and three in December 1827. Three more were delivered in

[8] On the Medical Institute see Dale Cary Smith, "The Emergence of Organized Clinical Instruction in the Nineteenth-Century American Cities of Boston, New York, and Philadelphia" (Ph.D. diss., University of Minnesota, 1979), pp. 68–71, 112–121; Harris to Upshur, 20 January 1843, M-148, roll 150; Harris to Branch, 12 November 1830, M-148, roll 64.

January 1828 and another two in February for a total expense of $80. Another bill sent to the "United States Surgical School" shows that $80 in wages were paid to Benjamin Lobb "as attendant on the lecture and dissecting rooms" from 1 November 1827 to 1 March 1828. An additional $40.87 was paid to Lobb for such "sundries" as lamp oil and wicks, wood, charcoal, tallow, soap, sperm, candles, one "piece of muslin for bandages," ligatures, bobbins, and tape, as well as for bladders and eyes for "experiments," and "Ingredients for injecting subjects." Also on the list of sundries was one quart of pyroligneous acid which, according to Robley Dunglison, was similar to distilled vinegar and was used to preserve animal substances, and two gallons of whiskey.[9]

Beginning on 1 July 1829, $200 a year was paid in rent to W.E. Horner, the Secretary of the Medical Institute, for the "use of the Hall" for the medical officers of the Navy. At this time cadavers were described as "subjects furnished for depictions & operations." Eight "subjects" were delivered to the lecture rooms during September, October, and November 1828 and another three in April, May, and June 1829, for which Surgeon Harris paid Richard Field a total of $88. Mr. Field also supplied cadavers to the University of Pennsylvania.[10]

It should also be noted that Harris expanded his usefulness and contacts when he was appointed surgeon to the Pennsylvania Hospital in 1829. He was also the president of the Board of Examiners of surgeons and surgeon's mates for several years.

In the beginning, Harris seems to have had about three to five surgeon's mates and two or three surgeons taking his lectures in any given year. His letters refer to his work as instructor of junior officers of the Navy, but this did not mean just officers preparing to take the examinations for promotion to surgeon, but a small number of those who already held that rank. Normally there would be some officers on leave of absence, and others on active duty at the naval hospital in the Philadelphia Navy Yard. In 1830, Harris noted that the majority of his students "have been unable to attend a full course in consequence of their absence on duty. The promptness, however, with which they attend lectures, and engage in study, testi-

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[9] Robley Dunglison, *Dictionary of Medical Science* 7th ed. (Philadelphia: Lea and Blanchard, 1848).

[10] Records of the Accounting Officer of the Department of the Treasury. Fourth Auditor, Settled Miscellaneous Accounts and Claims, 1817–1911, Record Group 217, Box 67, Account 7290; Box 72, Account 40.

fies in a satisfactory manner the utility of the establishment so evenly and generously provided for their instruction by [the] government."[11]

One of the first officers to rush to Philadelphia to prepare for exams was Surgeon's Mate Thomas Dillard. He had attended the medical school of the University of Pennsylvania, but had not graduated when he received his commission in 1824. Two months later Dillard was given a leave of absence and hurried back to Philadelphia to finish his studies and get his degree. With borrowed funds he paid for tickets that would admit him to various classes at the University of Pennsylvania and would pay his graduation expenses. It came as a great shock to Dillard to discover that, while on leave, he would draw only half his pay. Unable to live on half pay or to repay his loans, he asked for active duty. The Secretary took pity on Dillard, placed him on full pay and on an awaiting orders status, and allowed him to remain in Philadelphia until he graduated. During this interval Dillard discovered the Medical Institute and the work that Harris was doing. He profited from the experience. When he graduated Dillard was sent to sea, and was promoted to surgeon 38 months after he entered the service. By 1843 he was serving as president of the examining board, in the midst of a successful career in the navy.[12]

Another early student was Surgeon's Mate Charles Chase, who had entered the navy in December 1814. Since that time he had had arduous service in the West Indies, which debilitated him for a time. Upon learning about Surgeon Harris's lectures, he sought orders detaching him from duty at the Portsmouth, New Hampshire navy yard and sending him to Philadelphia. When these had not come by the time the lectures began, Chase wrote directly to Harris and asked him to use his influence with the Secretary of the Navy to bring about the desired transfer. Harris did so, and added that "I am well assured, that he cannot pass an examination if he be denied

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[11] Harris to Branch, 12 November 1830, M-148, roll 64. In this manner Harris noted that during the past year two surgeons and twelve assistant surgeons had attended lectures at the Medical Institute. In the winter season he superintended the studies of six assistant surgeons. There is a table on page 119 of Dale Smith's study (see note 8 above) showing the number of students attending the Medical Institute between 1819 and 1845, but there is no indication of how many of these were naval officers. This table shows that in 1830 there were 111 students in attendance, the highest number in the history of the Medical Institute.

[12] Dillard to Southard, 3 January 1825, M-148, roll 138; U.S. Navy Department, *Navy Register* (Washington, 1826), p. 11; Edward W. Callahan, ed., *List of Officers of the Navy of the United States and of the Marine Corps* (New York, 1901), p. 163.

these advantages." Chase arrived in time for a promotion examination that was held in late November 1824. Most of those who had appeared before the Board had insufficient time to prepare and thus failed. This was the situation with Chase. He now threw himself into his work. Harris reported to the Secretary that "Most of the gentlemen who are attending my lectures are very attentive and studious. Dr. Chase is particularly so; and if I do not err in judgment, he will more than retrieve the character which he lost in the last examination."[13]

Before Chase arrived, Harris and the other naval medical officers had asked the Secretary that the examination be postponed, but the request was not granted. A second examination was scheduled for late January. Harris asked the Secretary to postpone this to sometime in February. This was done. By this time Chase, at least, was ready and anxious for the examination. He was apprehensive that if he passed the examination in late February or early March, the legislative session might be too far advanced for him to get Congressional approval of his promotion. Accordingly, he wrote to Senator John Parrott of New Hampshire, a member of the Naval Affairs Committee, to urge the Secretary to schedule the examinations. Parrott forwarded the letter to the Secretary of the Navy. The examination was scheduled for 15 April. Chase passed and was promoted to the rank of surgeon on 3 May 1825. He went on to a long and honorable career in the Navy.[14]

Less fortunate was Dr. John Imlay of New Jersey, who had received an acting appointment as a surgeon's mate in November. A regular appointment depended on his performance in the examination. Following the examination, Harris wrote to Secretary Southard that "I regret to inform you that we have been obliged to reject Dr. Imlay. He is so entirely deficient in the science of Medicine, that we could not, without a violation of your orders, suffer him to pass the board." Yet Harris believed that with time and op-

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[13] Chase to Thompson, 7 August 1823, M-148, roll 32; Thompson to Chase, 12 August 1823, M-149, roll 15; Chase to Harris, 29 October 1824 and enclosure, M-148, roll 37; Harris to Southard, 2 and 4 November 1824, M-148, roll 37; Southard to Harris, 4 November 1824, M-149, roll 15; Harris to Southard, 28 April 1825, Southard Correspondence, 1825, Box 14, Samuel Southard Papers, Princeton University Library. One of the reasons for Chase's sense of urgency was his understanding that he had a limited leave of absence in which he could achieve his goals. See Chase to Southard, 24 March 1825, M-148, roll 38.

[14] Harris to Southard, 7 October 1824, Southard Correspondence, Box 11, Samuel L. Southard Papers, Princeton University Library; Chase to Parrott, 16 February 1825, M-148, roll 38.

portunity, they might be able to make something of the young man. He suggested that the Secretary allow Dr. Imlay to remain a year in Philadelphia in the hope that with some education, he might be able to qualify for a commission. The Secretary approved this suggestion, but first there was the fact that Imlay's failure had created some difficulties with the physician under whom he had studied. Harris was given the task of dealing with Imlay's mentor, a Dr. Holcombe, who was a personal friend of the Secretary.

Harris later reported to the Secretary that he had written to Dr. Holcombe and presented the Imlay case in a way that he hoped would "remove all unpleasant feelings on the subject. I informed him that you intended to order the Doctor to duty on this station for the purpose of affording him an opportunity to pursue his studies. He would thus be enabled to acquire an intimate knowledge of his profession which would give him much more respectability in the service, than if we had suffered him to pass, inferior as he is, in elementary requirements, to those with whom he would associate." To the Secretary Harris added "I am at a loss to suggest to you the kind of service on which the Doctor might be ordered." Perhaps he might be attached to the hospital or the recruiting rendezvous under the supervision of a physician. That year Harris gave a summer course of lectures and worked with Imlay. It was largely a wasted effort, however. Imlay eventually reached that conclusion himself and resigned in September 1831.[15]

Meanwhile, legislation had been passed in 1828 to improve the pay and professional standing of medical men in the Navy. Under this law no one could be promoted to the rank of surgeon without two years' experience at sea and the successful completion of examination by a board of surgeons. The title of the entry level medical position was changed from surgeon's mate to assistant surgeon.[16] Harris's work with the Medical Institute and with the Navy medical officers now had settled into a routine. There had been no shortage of applicants for the navy's medical establishment, but there was also a fairly high turnover rate. The aforementioned legislation made it easier to get and to keep good men.

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[15] Southard to Imlay, 16 November 1824, 18, 25 March 1825, M-149, roll 15; Southard to Imlay, 23 November 1824, Miscellaneous Letters Sent, M-209, roll 5; Harris to Southard, 24, 28 April and 19 June 1825, Southard Correspondence, Box 14, Samuel L. Southard Papers, Princeton University Library; Imlay to Acting Secretary John Boyle 3 September 1831, Resignations of Officers of the U.S. Navy, 1812–1833, Record Group 45, National Archives, 230.

[16] *U.S. Statutes at Large,* IV, Chapter 121, 313.

Harris's arrangements were threatened in January 1833 when Secretary Levi Woodbury told him that under navy regulations, no medical officer was to remain at the same station for more than two or three years. Since Harris had been in Philadelphia for a much longer time than that, he feared the possibility of being transferred. Surprised by this unexpected turn of events, Harris responded that previous secretaries had exempted him from this regulation because of the valuable services he was rendering. "If my services were then important," wrote Harris, "they are seven fold more so at this time, because I have procured for the medical officers, through my own exertions, and without any additional expense to the government, free admission to several other lectures. It is now the most complete course of medical and surgical instruction in this country, and perhaps in the world. The course continues ten months in the year—six months in lectures, and the remaining four in examinations and familiar illustrations." Harris proceeded to note that in the files of the Navy Department there were testimonials from medical officers testifying to the value of the lectures. Navy doctors had also written to Harris to tell him that the advantages afforded by the school were "incalculable." Because of the work being done by Harris, fewer medical officers had to appear before the board of examiners a second time. Carrying his argument further, Harris pointed out that in Europe, schools connected with the military establishment were operated at great expense. But in Philadelphia the medical school was conducted for little more than the cost of the salary paid to Harris—the same salary he received as a surgeon attached to a naval hospital. Harris also noted that in his capacity as "an operative surgeon," there was scarcely a week "in which I do not perform some important operation on officers, most of them from distant stations. It appears that I have their confidence whether deservedly or not. Is it not useful, then, that I should be stationed in some central position so that I can readily be reached?"[17]

The arguments advanced by Harris were apparently strong

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[17] Woodbury to Harris, 26 January 1833, M-148, roll 22; Harris to Woodbury, 30 January 1833, M-148, roll 81. In response to an earlier report, Woodbury told Harris that "I am very happy to find so useful an institution exists as the one you describe." He added that "The next Congress, I entertain hopes [that] may make some special appropriation to aid and patronize an establishment that affords so essential [an] improvement to the Junior Surgeons of the Navy. . . " He also hoped that Congress would increase the pay of medical officers if the raise granted in 1828 "be not sufficient to enable them to attend the lectures at their own expense." See Woodbury to Harris, 12 July 1831, M-149, roll 19.

enough to end any thoughts about transferring him. Harris continued to teach at the Medical Institute and to conduct classes designed for the specific benefit of naval medical officers. When he forwarded a report on the operations of the school in 1834, John Boyle, the acting Secretary of the Navy, sent Harris an enthusiastic response. "It is highly gratifying to discover that the lectures are so well attended by the medical officers of the Navy. The zeal, alacrity, and industry with which their studies are prosecuted, cannot fail to produce to the service lasting and beneficial results."[18]

Inevitably there would be times when the needs of the service would create problems. In 1839, Assistant Surgeon David Harlan requested three months leave for the specific purpose of attending the medical lectures in Philadelphia. This was granted. Once in Philadelphia, Harlan spent $200 to attend other classes at the medical school and to visit area hospitals. Halfway through the semester he was ordered to a ship at the Philadelphia Navy Yard. Harlan complied with the order but protested that it not only cost him money but put him at a disadvantage for the forthcoming examination. Harlan's case and that of Dr. Dillard, noted earlier, underscore another largely unknown aspect of the education of naval medical officers, that is, the number who paid money for courses to supplement what they got free through Dr. Harris. We only know of cases such as Harlan's because something went wrong. In the case of poor Harlan, he did not pass his examination until July 1841, and because there was no vacancy at that time, he was not promoted to surgeon until December 1845.[19]

Another insight into what went on in Philadelphia is provided by Assistant Surgeon Alexander J. Wedderburn's failure to pass the examination for surgeon in 1841. Wedderburn was mortified by his performance, and he wrote Surgeon William P.C. Barton, the president of the Board, about it. "I can not hope or expect to be so well qualified for examination as those gentlemen who have been attending the Hospitals and Lectures for two years past, and some of them more, where they have seen all kinds of Diseases and heard the best opinions of the day with regard to the treatment of them, whilst I have been in the West India station in a measure removed from the medical world ever since my entry into the service." Wedderburn did not pass his examination until late in 1841; he was promoted to

[18] Boyle to Harris, 5 August 1834, M-149, roll 23.
[19] Harlan to Paulding, 3 December 1839, M-148, roll 125.

surgeon the following January. Two and a half years later he resigned his commission.[20]

Harris continued his important work of teaching the medical officers as well as his surgical duties in the Navy. In January 1837, his duty station was changed from the naval hospital to the Naval Asylum in Philadelphia, a place of retirement for elderly seamen. Six months after his transfer, and after his teaching duties were over, Harris reported to the Secretary that he was ill. He asked that he be relieved of his duties at the Asylum and given a three-month leave of absence. This was granted. He offered to resume his course of lectures in the fall, however, if that was the wish of the Secretary. With this letter was another one signed by three Navy surgeons urging the Secretary to continue the lectures if the health of Harris would allow it. The matter of continuing the lectures was still pending when a new Secretary, James K. Paulding, took office. He endorsed the proposal and Harris resumed his teaching schedule. By this time a "neuralgic affection of the spine" forced Harris to lecture from a sitting position, and in 1841, for the first time in his career, he asked to be excused from duties on the examining board.[21]

When Harris submitted his report for the academic year 1841–42, he noted that three surgeons and four assistant surgeons had attended his lectures. This was less than the usual number, and some of these men were able to attend only a part of the course due to professional demands on them. "It is to be regretted," wrote Harris,

> that those of them who are in expectation of their second examination could not enjoy the great advantages which the school affords them, for six months or a year before that period. Such advantages would be alike serviceable to them, and to the service in which they are engaged. The standard qualification for medical officers of the navy is very properly a high one, and which cannot be without difficulty achieved unless they can have the opportunities of witnessing such demonstra-

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[20] Wedderburn to Barton, 6 June 1841, private collection. Part of the problem was probably the fact that Wedderburn requested permission to spend only three weeks in Philadelphia prior to his examination by the Medical Board. See Wedderburn to Paulding, 3 December 1840, M-148, roll 132.

[21] "Thomas Harris, Surgeon, U.S.N., 1812–1861," ZB-File (Biographical File). Operational Archives Division, Naval Historical Center, Washington Navy Yard, Washington, D.C., Dickerson to Harris, 20 November 1837, M-149, roll 26.

> tions as can only be afforded by experienced and competent teachers.

At that time the teachers and subjects that were available to naval medical officers without cost at the Medical Institute were as follows: Nathaniel Chapman and William Wood Gerhard on the theory and practice of medicine; William E. Horner and Paul Beck Goddard on anatomy; John B. Rogers on chemistry; Samuel Jackson on physiology and pathology; John Bell on materia medica; Hugh Lenox Hodge and Harris on midwifery; and William Poyntell Johnson and Harris on the principles and operations of surgery.[22]

Secretary Abel P. Upshur responded to Harris's report by expressing regret that the demands of the service did not allow a more general attendance at the lectures by the medical officers of the Navy who "could not fail to profit greatly by the advantages offered to them."[23] These remarks suggested that the medical education program would continue to be endorsed by the Navy Department. But dramatic changes were in the making.

Under recently-passed legislation, the Bureau of Medicine and Surgery was established in 1842, and William P.C. Barton, an old rival of Thomas Harris, was appointed to head it. Barton told Secretary Upshur that the small sum of $400 that was allotted each year for rent and equipment to support the teaching arrangements in Philadelphia had never received legislative sanction. Viewing the matter in a strict constructionist framework, Upshur notified Harris that the course must be discontinued. Stunned by the turn of events, Harris reviewed for Upshur the history of the arrangements, pointing out that each of the Secretary's six predecessors had authorized funds for the school. Each year he had submitted a report on its operations, and had submitted his vouchers to the Treasury Department for payment. In some years he had spent less than the $400 that had been authorized.

> After having discharged the duties of this appointment for a period of twenty years, and in such a manner as to secure the repeated thanks of the officers for whose benefit I laboured; and after having received many approving and encouraging letters from several Heads of the Navy Department on the same subject, you can readily imagine my surprise and my mortification to receive from you a letter containing an implied censure on my

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[22] Harris to Upshur, 30 June 1842, M-148, roll 144.
[23] Upshur to Harris, July 1842, M-149, roll 34.

> conduct: I conscientiously believe that there never was an "application of the public money" more faithfully or usefully made, nor could there have been accomplished ends more important by means so inconsiderable in amount.

Harris also pointed out that if there was no specific legislative authority for the expenses of a medical school, the same argument applied to the education of midshipmen. Both were necessary to the well-being of the service and both should be supported. If Upshur was determined not to sanction any such expenditures in the future, the program of medical education must end, for Harris could not support the venture from his own funds.

In his response to Harris, Upshur wrote that he was satisfied that the money previously advanced had been faithfully administered, and that the medical lectures were useful. He had assumed that the expenditure of funds for the school had been authorized by Congress. Since this was not the case, however, he could not allow any additional disbursements. Upshur thus brought to an end this experiment in medical education to which Harris had given so much of his energy and his talent. The Secretary ended the participation of naval officers in the Medical Institute without providing them with any other alternative method of advancing their professional knowledge. Undoubtedly changes in the arrangements would have come eventually, but Upshur accelerated the process.[24]

While it lasted, the association of naval officers with the Medical Institute gave something of a University of Pennsylvania standard to their training and outlook. In several instances the men educated under Harris remained in the Navy for most of their lives, and thus influenced others long after their teacher had ceased his labors. The leadership shown by Harris, and his involvement in the Medical Institute, played an important part in the education of the medical officers of the Navy. When speaking of Harris's contribution, one is tempted to paraphrase what Winston Churchill said of the Royal Air Force: in the professional development of the U.S. Navy medical corps, never has so much been done for so many, and at so little cost, by one man.

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WASHINGTON, DC 20560

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[24] Upshur to Harris, 20 January 1843, and 31 January 1843, M-149, roll 36; Harris to Upshur, 26 January 1843, M-148, roll 150.

Doctors of the Old School: Philadelphia Physicians of the Middle Period (from Benjamin Rush to S. Weir Mitchell)

Whitfield J. Bell, Jr.

Obituary notices in the *Transactions* of the College of Physicians of Philadelphia are brief records of the lives of physicians whose names, not to mention personalities and achievements, are as little known today to physicians and medical historians as they are to the general public.[1] Many know something about Benjamin Rush at the end of the eighteenth century and about Weir Mitchell at the end of the nineteenth. But there were several score other medical men—practitioners, teachers, authors—in the three-quarters of a century between Rush's death in 1813 and Mitchell's first election to the presidency of the College of Physicians in 1886, who established and sustained Philadelphia's rank and reputation as the principal medical center in the country. And much of what was true of Philadelphia in those years was, one suspects, true also of two other medical centers, Boston and New York.

The purpose of this brief survey is primarily to call attention to some of these men who flourished in the middle two quarters of the

[1] Citations of memoirs and obituaries have generally been made when the name of the subject first appears in the text. Most are from the principal publication of the College of Physicians of Philadelphia. Its name has changed slightly from time to time over the past 200 years: *Transactions of the College of Physicians of Philadelphia,* vol. 1, pt. 1 (1793). Part 2 was never published. Publication was resumed as *Summary of the Transactions of the College of Physicians of Philadelphia,* 3 vols. (1841–50), and New Series, 4 vols. (1850–74), [hereafter *Summary*]. This was continued as *Transactions of the College of Physicians of Philadelphia,* Third Series, 54 vols. (1875–1932); Fourth Series, 45 vols. (1933–78) [hereafter *Trans*]. The title was changed in the Fourth Series, vol. 6 (1938–39) to *Transactions & Studies of the College of Physicians of Philadelphia,* [hereafter *T&S*].

nineteenth century—D. Francis Condie,[2] Isaac Parrish,[3] Edward[4] and Henry[5] Hartshorne, Benjamin[6] and Reynell[7] Coates, Henry[8] and John Neill,[9] and many others, including Caspar Wister[10] and his half-brother Owen (Wist*er*, not to be confused with the better known Caspar Wist*ar*, who was professor of anatomy in the University of Pennsylvania, a correspondent of Thomas Jefferson, Jefferson's successor as president of the American Philosophical Society, and host to Philadelphia's famous Wistar Parties). They are all men whose origins, characters, personalities, and achievements seem worth knowing.

All were born in the last years of the eighteenth century and the first decade of the nineteenth; all died before the twentieth century opened. They were trained, most of them, in the theories and doctrines that prevailed before the advent of a more scientific medicine. Only the younger ones among them had visited Paris for a year or two in the 1820s and '30s. (Young James Logan Fisher, brother of the diarist, died there.) With their old ideas, their old-fashioned dress, and antique manners, they were, to their younger contemporaries, "doctors of the old school." Admittedly this is a class of men of several professions that in the nineteenth century was constantly passing away; but the company was also as constantly renewed. Perhaps it has now passed forever from the social and professional scene; at least it seems unlikely that the term will be applied in affection and respect to contemporary physicians with offices in medical

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[2] For biographical information on Condie, see *Philadelphia Medical Times* 5 (1874–1875): 448; Donald C. Geist, "D. Francis Condie, M.D., 1796–1875," *Philadelphia Medicine* 76 (1980): 292–293; and Whitfield J. Bell, Jr., *The College of Physicians of Philadelphia: A Bicentennial History* (Canton, MA: Science History Publications, 1987), p. 73.

[3] Samuel Jackson (of Northumberland), "Biographical Notice of Dr. Isaac Parrish," *Summary,* n.s., 1 (1850–53): 427–51.

[4] Henry Hartshorne, "Memoir of Edward Hartshorne, A.M., M.D.," *Trans.,* 3rd ser., 9 (1887): cdxxv–cdxxxiv.

[5] James Darrach, "A Biographical Sketch of Henry Hartshorne, M.D.," *Trans.,* 3rd ser., 19 (1897): lxv–lxxvii.

[6] Marian S. Carson, "Benjamin Hornor Coates, M.D. (1797–1881): A Study Based on his Manuscripts," *T&S,* 4th ser., 35 (1967–68): 63–68.

[7] Cato, "Sketches of Eminent Living Physicians, No. 20. Reynell Coates," *Boston Medical and Surgical Journal,* 44 (1851): 137–37, 247, [hereafter *BMSJ*]; William J. Snape, "Reynell Coates, (1802–1886): Politician, Poet, Editor, Naturalist, Lecturer and Physician," *T&S,* 4th ser., 35 (1968): 112–18.

[8] John M. Paul, "Obituary Notice of Henry Neill, M.D.," *Summary* 2 (1846–49): 320–23.

[9] Edward Shippen, "Memoir of John Neill, M.D.," *Trans.,* 3rd ser., 5 (1881): cxli–clvi.

[10] W. S. W. Ruschenberger, "A Sketch of the Life of Caspar Wister, M.D.," *Trans.,* 3rd ser., 12 (1890): lix–xc.

arts buildings and secretaries who record the patient's financial history before the doctor takes his medical history.

"Doctor of the old school" is a term that was often used after mid-century; but it owes a special currency to the sentimental short sketch of that title by the Scots writer Ian Maclaren in 1894. Maclaren's William Maclure practiced medicine for forty years in a remote Highland glen, where his father had practiced before him.

> There were no specialists in Drumtochty, so this man had to do everything as best he could, and as quickly. He was chest doctor and doctor for every other organ as well; he was accoucheur and surgeon; he was oculist and aurist; he was dentist and chloroformist, besides being chemist and druggist.

Confronting a case he fears will prove fatal, Maclure persuades the local laird to ask the great Sir George, the Queen's physician, to come to Drumtochty for a consultation. Through deep drifts of snow and rushing mountain streams that threaten to overset their carriage, the doctors make their way from the rail station to the remote shieling. Together they see the patient through the crisis; and as he returns to his city house and consulting room, the London physician cries out, "Give's another shake of your hand, Maclure; I'm proud to have met you; you are an honor to our profession. Mind the antiseptic dressings."

No Philadelphia doctor in the 1840s, of course, practiced so completely alone as Maclure; none was called on to perform such feats of physical courage, although Lewis P. Gebhard,[11] practicing north of Spring Garden Street, had to confront the dangers that lurked in unpoliced, unlighted streets, filled with "men of violence, of sinister mien and purpose," who sallied forth from narrow alleys and covert shelters to assault and rob passers-by. No less than Willie Maclure, if somewhat differently, were these less well-known Philadelphia doctors an honor to their profession.

Who were they, and of what sort?

First: Many, perhaps most, were sons, brothers, nephews, and fathers of doctors. There should be no mystery about this, for, growing up in a medical family, it was not unnatural that a young man should incline toward the family trade and profession. John Neill was the son and grandson of physicians. Henry Neill was the

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[11] George Hamilton, "Lewis P. Gebhard, M.D., 1791–1873," Medical Society of the State of Pennsylvania, *Trans.*, 10 (1874): 361–68.

son of one doctor and father of another, the son-in-law of a third, and the brother-in-law of two more, one of whom was his preceptor. William E. Horner,[12] first dean of the University of Pennsylvania School of Medicine, was the grandson, nephew, and father-in-law of doctors. John C. Otto[13] was the son of Dr. Bodo Otto of the Continental Army Hospital and the grandson and great-grandson of physicians. William Henry Klapp[14] was the son of a doctor and the brother of two others, and all were descended from a physician who practiced in South Carolina and Westchester County, New York, in the seventeenth century. Charles D. Meigs[15] was the first of at least five successive generations of Meigses in Philadelphia practice. Hugh Hodge,[16] who died in the yellow fever of 1798, was the first of three generations of Hodge doctors; and Thomas T. Hewson[17] was the son and grandson of physicians, the third in an unbroken line of at least seven generations of physicians of that name, father and son, in England and Philadelphia, from the eighteenth century to present times. Before concluding this genealogical exercise, one should add that filial links were strengthened by marriage bonds. Jacob Randolph[18] married a daughter of the great Philip Syng Physick,[19] William G. Brinckle married a niece. William S. W.

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[12] William Horner, "William E. Horner," in Samuel D. Gross, comp., *Lives of Eminent American Physicians and Surgeons of the Nineteenth Century* (Philadelphia: Lindsay & Blakiston, 1861), pp. 697–721; Cato, "Sketches of Eminent Living Physicians, No. XI. "William E. Horner," *BMSJ,* 41 (1850): 114–18.

[13] Isaac Parrish, "Memoir [of John C. Otto]," *Summary*, 1 (1841–46): 305–18.

[14] D. Francis Condie, "Memoir of William Henry Klapp," *Summary,* n.s., 3 (1856–62): 65–74.

[15] J. Forsyth Meigs, "Memoir of Charles D. Meigs, M.D.," *Summary,* n.s., 4 (1863–74): 417–18; and Cato, "Sketches of Eminent Living Physicians, No. V. Charles D. Meigs," *BMSJ,* 40 (1849): 313–15, 333–35.

[16] Cato, "Sketches of Eminent Living Physicians. No. XV. Hugh L. Hodge," *BMSJ* 41 (1850): 518–20; William Goodell, "[Memoir of Hugh L. Hodge]," Medical Society of the State of Pennsylvania, *Transactions,* 10 (1874): 349–61; Samuel C. Busey, *Personal Reminiscences and Recollections* (Washington, 1895), pp. 44–45.

[17] Franklin Bache, "Obituary Notice of the late Dr. Thomas T. Hewson," *Summary,* 3 (1849–50): 2–10.

[18] George W. Norris, "Biographical Notice of Dr. Jacob Randolph," *Summary,* 2 (1846–49): 283–89; J. Aitken Meigs, "Jacob Randolph," in Gross, *Lives,* pp. 512–20; and Busey, *Personal Reminiscences and Recollections,* p. 40.

[19] John Bell, "Philip Syng Physick" in Gross, *Lives,* pp. 351–459; and Samuel D. Gross, *Autobiography of Samuel D. Gross, M.D.* (Philadelphia: George Barrie, 1887), Vol. 2, pp. 240–46.

[20] John Ashhurst, Jr., "W. S. W. Ruschenberger," *Trans.* 3rd ser., 18 (1896): xxxv–xli.

[21] Squire Littell, "Memoir of Theophilus Elmer Beesley, M.D.," *Summary,* n.s., 4 (1863–74): 235–44.

Ruschenberger[20] and Theophilus Beesley[21] married sisters of Caspar and Owen J. Wister. There were so many relationships of these kinds that the Philadelphia medical profession must sometimes have seemed one extended family.

Second: The great majority of the doctors were, of course, born in Philadelphia, its nearby towns, and neighboring countryside; but Nathaniel Chapman,[22] William E. Horner, John Bell,[23] John K. Mitchell[24] (father of S. Weir), and some others came from Virginia. George B. McClellan[25] was a native of Connecticut and a graduate of Yale, but he received his M.D. degree from the University of Pennsylvania and was a Philadelphian thereafter. And there was a handful of exotics: Samuel Lewis[26] from Barbados; William R. Grant,[27] born and raised in Nova Scotia; Antoine Bournonville,[28] who, after education in France, residence in Copenhagen, and travels in Lapland and Siberia, came to Philadelphia where, in addition to acquiring a practice, he rose to become Grand Master of the Pennsylvania Grand Lodge of Masons; Albert Frické,[29] an M.D. of Berlin, an able microscopist, a regular reader of German medical literature, and a welcome member of the city's Männerchor. And, of course, Robley Dunglison,[30] who came to Jefferson Medical College in 1836 with academic honors from Edinburgh, London, and Erlangen, and a reputation for teaching and writing won at the universities of Virginia and Maryland.

New Englanders, in general, were not attracted to Philadelphia—not even to study there—once the Massachusetts General

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[22] Cato, "Lives of Eminent Living Physicians. No. III. Nathaniel Chapman," *BMSJ* 40 (1849): 216–19, 242–43; John B. Biddle, "Nathaniel Chapman," in Gross, *Lives*, pp. 663–78; and Gross, *Autobiography*, Vol. 2, pp. 278–82.

[23] Laurence Turnbull, "Obituary Notice of the late Dr. John Bell, M.D., of Philadelphia, 1796–1872," Medical Society of the State of Pennsylvania, *Transactions*, 10 (1874): 746–50.

[24] Cato, "Lives of Eminent Living Physicians. No. IX. J. K. Mitchell," *BMSJ* 41 (1850): 38–41.

[25] Samuel G. Morton, "Biographical Notice of the late George McClellan, M.D.," *Summary*, n.s., 2 (1846–49): 452–57; and J. H. B. McClellan, "George McClellan" in Gross, *Lives*, pp. 498–511.

[26] "Remarks Commemorative of Samuel Lewis, M.D.," *Trans.*, 3rd ser., 12 (1890): xci–ciii.

[27] W. L. Atlee, "Memoir of Dr. William R. Grant," *Summary*, n.s. 1 (1850–53): 498–517.

[28] Medical Society of the State of Pennsylvania, *Transactions*, 3rd ser., 3 (1864): 530–33.

[29] Thomas G. Morton, "Memoir of Albert Frické, M.D.," *Trans.*, 3rd ser., 22 (1900): xli–xlviii.

[30] Samuel D. Gross., "Memoir of Robley Dunglison, M.D., LL.D.," *Summary*, n.s., 4 (1863–74): 294–313; and Gross, *Autobiography*, Vol. 2, pp. 329–35.

Hospital was opened for patients. Only one Yankee seems to have made his career in the Quaker City, while remaining much of a New Englander in manner and loyalties. Henry Bond,[31] a native of Watertown, Massachusetts, and a graduate of Dartmouth College and its medical school, had a successful Philadelphia practice and served the College of Physicians as secretary and censor for 26 years; but long a member of the company of exiles in Pennsylvania organized as the Society of the Sons of New England, he spent the leisure of many years writing a two-volume history of his native town and its families, and bequeathed his books and manuscripts to Dartmouth and the New England Historic Genealogical Society of Boston, of which he was a corresponding member.

Third: They got their early education at such local academies as the Friends' School at Fourth and Chestnut Streets, or from private schools and tutors. Owen Jones Wister was sent to Bronson Alcott's primary school in Germantown, as was Francis West Lewis;[32] but Owen's high-spirited half-brother Caspar was delivered by his exasperated parents to Mr. Bolmar's boarding school in West Chester, which had a reputation for discipline. Some—among them Isaac Parrish, Reynell Coates, Thomas Yardley,[33] Joshua M. Wallace[34]—attended John Gummere's school in Burlington, New Jersey, where the curriculum was especially strong in mathematics, chemistry, astronomy, and other sciences.

Most of the physicians considered here received their arts degree from the University of Pennsylvania; a handful from Princeton; and two or three, including William Wood Gerhard,[35] went to Dickinson College. Usually they spent a year reading medicine before they were thought ready for medical school; and a few got practical experience before they even began formal medical study—W. S. W. Ruschenberger in the Navy, William Gibson[36] as an assistant surgeon at the battle of Bladensburg, William E. Horner in the

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[31] D. Francis Condie, *Biographical Notice of Henry Bond, M.D.* (Philadelphia: Collins, 1860).

[32] Morris J. Lewis, "Memoir of Francis West Lewis, M.D.," *Trans.*, 3rd ser., 25 (1903): li–lvi.

[33] Squire Littell, "Memoir of Thomas H. Yardley, M.D.," *Summary,* n.s., 3 (1856–62): 335–44.

[34] F. G. Smith, "Memoir of Dr. Joshua M. Wallace, Deceased," *Summary,* n.s., 1 (1850–53): 315–20.

[35] Thomas Stewardson, "Biographical Memoir of William W. Gerhard, M.D.," *Summary,* n.s., 4 (1863–74): 473–81; and Busey, *Personal Reminiscences,* p. 39.

[36] Cato, "Sketches of Eminent Living Physicians. No. VII. William Gibson," *BMSJ* 40 (1849): 499–500, 518–20.

militia on the New York-Canadian border, and Caspar Wister in the army of the Republic of Texas.

Fourth: The preceptor was an essential part of medical education. Even the strange, reclusive James Rush took a student now and then. Physician fathers and elder brothers sometimes initiated their sons and juniors into medicine. But several Philadelphia doctors were especially successful and popular in this role, which was also a source of income. One of these was Joseph Parrish,[37] a graduate of the University of Pennsylvania Medical School in 1805, physician to the Philadelphia Dispensary, a public lecturer on chemistry, and after 1816 a member of the medical and surgical staff of the Pennsylvania Hospital. He had so many pupils—rarely fewer than ten, sometimes as many as thirty—that he engaged two assistants, who shared lecturing duties with him in the summer months. In addition to his sons Isaac and Joseph, Parrish's pupils included George Fox,[38] William Wood Gerhard, Wilson Jewell,[39] Squire Littell,[40] Caspar Morris,[41] Samuel G. Morton,[42] George W. Norris,[43] John Marshall Paul,[44] John Rodman Paul,[45] Joseph Peace,[46] Francis West,[47] and Thomas Yardley.

Another well known preceptor was the surgeon Philip Syng Physick. He was famous, enjoyed a large income—perhaps $20,000 a year—but lived plainly, did not entertain, spent nothing on professional objects or, as Samuel D. Gross noted disapprovingly, to assist

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[37] George B. Wood, "Memoir of Dr. Joseph Parrish," Biographical Sketches and Memoirs of Members of the College of Physicians, pp. 59–71 (Library, College of Physicians of Philadelphia [hereafter CPP]).

[38] W. S. W. Ruschenberger, "A Memory [sic] of Dr. George Fox," *Trans.*, 3rd ser., 7 (1884): xlix–lxix.

[39] Howard A. Kelly and Walter L. Burrage, *Dictionary of American Medical Biography* (New York: D. Appleton and Co., 1928).

[40] A. D. Hall, "Memoir of Squire Littell, M.D.," *Trans.*, 3rd ser., 9 (1887): cdxlix–cdlx.

[41] J. Cheston Morris, "Biographical Sketch of Caspar Morris, M.D.," *Trans.*, 3rd ser., 10 (1888): xxxiii–lx.

[42] George B. Wood, "Memoir of Dr. Samuel George Morton," *Summary*, n.s., 1 (1850–53): 372–88; Sanford B. Hunt, "Samuel George Morton" in Gross, *Lives*, pp. 582–604; and Cato, "Sketches of Eminent Living Physicians. No. X. Samuel George Morton," *BMSJ*, 41 (1850): 56–58.

[43] William Hunt, "Memoir of George W. Norris, M.D.," *Trans.*, 3rd ser., 2 (1876): xxvii–xliv.

[44] Edward Shippen, "Memoir of John Marshall Paul, M.D., of Belvidere, N.J.," *Trans.*, 3rd ser., 5 (1881): cxi–cxv.

[45] Squire Littell, "Memoir of John Rodman Paul," *Trans.*, 3rd ser., 4 (1879): xxv–xliii.

[46] George Fox, "Biographical Notice of Doctor Joseph Peace," *Summary*, 1 (1841–46): 417–19.

[47] Squire Littell, "Memoir of Francis West, M.D.," *Summary*, n.s., 4 (1863–74): 247–57.

poor students. Although only an indifferent lecturer and not much of a reader or writer, Physick gave his students "clear and sound rules, likely to be useful to them" in their practice. His pupils included William Darrach,[48] John Syng Dorsey,[49] William Gibson, and Jacob Randolph.

With diplomas in hand and apprenticeship behind them the young doctors were ready to practice, at least in country towns and rural areas. One or two, like J. Dickinson Logan,[50] who was heir to his family's Stenton estate, were satisfied with the respectable title of "doctor" and never practiced. Others, however, sought further training and experience as well, perhaps, as a restoration of health and funds, by signing on as a ship's surgeon. Joseph Hartshorne[51] made two voyages to Batavia and India, which were amply remunerative; but Hugh L. Hodge's voyage to the East Indies proved a financial loss for all concerned, and he was never able to afford to go to Edinburgh, as he planned. John K. Mitchell, Joseph Carson, Wilson Jewell, Reynell Coates, and John Bell all went to China or India. Owen J. Wister spent three years as a naval surgeon in the Pacific and China. In Calcutta Caspar Morris picked up a recently-published treatise on medicine by an Indian author, with commentary in Persian and brief notes in English; years later he gave the book to the library of the College of Physicians, where it still is.[52]

The more usual path to experience, however, was through appointment as a resident in the Pennsylvania Hospital, or as an attending physician at the Philadelphia Hospital (known as Blockley and finally as Philadelphia General), or the Philadelphia, Northern, or Southern Dispensary. The almshouse and prison also afforded opportunities for young doctors.

Breaking into practice was not always easy, especially for those without professional or family influence. Even this might not avail. Although his father had held a high appointment in the old Proprietary government and done important service to the Penn family,

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[48] Theophilus E. Beesley, "Memoir of William Darrach, M.D.," *Summary,* n.s., 4 (1863–74): 163–68.

[49] Nathaniel Chapman, "An Eulogium of the late John Syng Dorsey, M.D.," *Philadelphia Journal of the Medical and Physical Sciences,* 1 (1820): 198–208.

[50] Nicholas B. Wainwright, ed., *A Philadelphia Perspective: The Diary of Sidney George Fisher* (Philadelphia: Historical Society of Pennsylvania, 1967), pp. 357, 390.

[51] Charles Evans, "Biographical Notice of Joseph Hartshorne, M.D.," *Summary,* n.s., 1 (1850–53): 201–19; and E. Hartshorne, "Joseph Hartshorne" in Gross, *Lives,* pp. 563–81.

[52] Ahmud-bin Muhmood Chughmeenee, *Qanoonchen: or, A Treatise on the Theory and Practice of Physic* (Calcutta, 1827).

Philip Syng Physick walked the streets for several years, it was said, without enough in his pocket to buy laces for his shoes or powder for his wig; and Franklin Bache[53] discovered that his great-grandfather's name was no recommendation in many of the city's families. In any case, acquiring a satisfactory practice had always been "proverbially slow, if not doubtful," in Philadelphia. To a few, like Caspar Wistar Pennock,[54] who enjoyed a private income even as a student, this did not matter much. Most men were not so fortunate. Samuel Jackson,[55] for example, was so discouraged by his prospects that he returned to his father's drug store. There he spent fifteen years before venturing again into medical practice in Philadelphia, where he eventually became professor of the institutes of medicine in the University of Pennsylvania. Moreton Stillé,[56] as well prepared as anyone in his time by several years of study and travel in Dublin, Paris, and Vienna, died at 35 without achieving an income large enough to support his family decently. A few men, like William S. Coxe,[57] too proud or independent to seek or accept patronage, achieved less than their abilities warranted. Others, despairing of success at home, considered settling elsewhere. Squire Littell, invited to South America, actually visited Guayaquil with a view to practicing there. Rush Van Dyke[58] spent three years after graduation as a physician on a plantation in Cuba, where he treated 75 to 100 patients a day and saw everything from yellow fever and dysentery to elephantiasis and leprosy.

Success and rank in the profession in Philadelphia were reckoned by several measures. Appointment to the staff of the Pennsylvania Hospital was probably the ultimate accolade, followed by Blockley and Wills Eye Hospital (although not until the latter part

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[53] Gross, *Autobiography,* Vol. 2, pp. 306–07.

[54] William W. Gerhard, "Sketch of the Life and Professional Labours of Dr. C. W. Pennock," *Summary,* n.s., 4 (1863–74): 245–46; and J. C. Morris, "Case of the late C. W. Pennock," ibid., pp. 222–28.

[55] Cato, "Lives of Eminent Living Physicians, No. XIV. Samuel Jackson," *BMSJ* 41 (1850): 319–22.

[56] Samuel L. Hollingsworth, "Memoir of Moreton Stillé," *Summary,* n.s., 3 (1856–62): 5–35.

[57] Henry Bond, "Memoir of William S. Coxe, M.D.," Biographical Sketches and Memoirs of Members of the College of Physicians, pp. 37–50, CPP.

[58] Cato, "Sketches of Eminent Living Physicians. No. 23. Rush Van Dyke," *BMSJ,* 47 (1853): 265–68.

[59] On this interesting point and the widespread prejudice against specialization in general, see George C. Harlan, "Memoir of William Fisher Norris, M.D.," *Trans.,* 3rd ser., 24 (1902): lxxii–lxxx; ibid., 48 (1926): 307–09; and J. Solis-Cohen, "Remarks," Philadelphia County Medical Society, *Celebration of the 75th Anniversary of the Philadelphia County Medical Society* (Philadelphia: John T. Palmer, 1925), pp. 13–14.

of the century did every Philadelphia physician accept oculists as gentlemen and fellow-professionals).[59] Appointments to the old Philadelphia Dispensary, founded in 1786, and the outlying Northern and Southern Dispensaries were less prestigious, and those to the Walnut Street Prison and Eastern Penitentiary the least so. Needless to say, this ranking had little to do with opportunities for clinical observation and practice; it was more social than scientific.

Another hierarchy was that of the medical and scientific societies of the city. In ascending order: the Philadelphia Medical Society, founded in 1792, which many joined as students and in which some—especially teachers of medicine—might remain active for years as honorary (that is, alumni) members; the County Medical Society, founded in 1848; and, at the professional peak, the College of Physicians of Philadelphia, which had a hall, a library, a publication—and a tradition of exclusiveness. Membership in the Academy of Natural Sciences was testimony to interest in, and probably contributions to, science; it seems to have meant as much as election to the American Philosophical Society, which was the oldest and most prestigious of the city's learned institutions, but at this time not among the most active.

There was a third yardstick. Within the profession the most highly regarded physicians were those who were also professors—first in the University of Pennsylvania, then in Jefferson Medical College, and finally in other public or long-established private schools. Next, behind the teachers, came the writers of textbooks and "systems" of medicine or surgery, authors of monographs, compilers of dictionaries and encyclopedias.

In short, men who were graduates of the University of Pennsylvania, were on the staff of the Pennsylvania Hospital, were Fellows of the College of Physicians, and were authors of a text or treatise, were widely regarded in mid-century as at the top of the profession. Practitioners who wrote little and had no chair in a medical school, though indispensable members of the profession, enjoyed little fame outside the circle of their patients and professional intimates; but if, as family physicians, they were liked as well as respected, they might receive the grateful tribute of being called at their death "doctors of the old school."

Except for the limp he had had since his horse fell on him, William Maclure of Drumtochty enjoyed rugged health to the last. That was not true of all the Philadelphia doctors of the middle of the

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[60] John Marshall Paul, "Memoir of Thomas H. Ritchie, M.D.," Biographical Sketches and Memoirs of Members of the College of Physicians of Philadelphia, pp. 32–36, CPP.

nineteenth century. At least some appear to have been as sick and sickly as some of their patients. Thomas Ritchie,[60] Edward Barton,[61] and William B. Wilson[62] all died of tuberculosis in their early 30s. Thomas Stewardson[63] contracted the disease at 37 and had to quit the city for the warmer climate of Georgia; and John S. Parry[64] also vainly sought recovery of health in Virginia, Lake George, and Florida, where he died at 33. The elder William Pepper developed some sort of pulmonary trouble while a student in Paris and experienced recurrences throughout his life, not to mention sleeplessness and double vision; he died at 55. William E. Horner suffered from headaches and spells of depression. Caspar W. Pennock was stricken with paralysis at the age of 48, gave up practice, and spent nearly fifteen years as an invalid before dying in 1867.

One reason for some of this may well have been the doctors' habits of unremitting and confining labor. Lewis F. Gebhard recalled that in the outbreak of "a bilious remittent fever" in 1822, he visited "as many as seventy-five patients . . . every day on foot for three days in succession, many of whom being very ill were visited two or three times a day." In the same epidemic Benjamin Janney[65] made 126 visits in 24 hours. John Ruan[66] attended 2,922 women in a lifetime of obstetrical practice; even in the decade of his sixties his cases numbered between 161 and 214 a year. "I find," wrote William Clarkson as he was preparing to quit medicine for the ministry, "that by rising at four o'clock, and husbanding precious time, I am enabled not only to attend to all of my medical profession and relative duties, but am thereby enabled to devote six to eight hours daily to the prosecution of my study of divinity."

They had begun the regimen as students. Hugh L. Hodge believed it was because he had studied so long and late by the dim light of an oil lamp that his sight gradually weakened, he had to give up his favorite subjects—anatomy and surgery—for obstetrics, and employ

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[61] "Obituary Notice [of Edward Barton]," *Philadelphia Journal of the Medical and Physical Sciences,* 5 (1822): 188–92.

[62] Isaac Parrish, "Biographical Notice of William B. Wilson, M.D.," *Summary,* n.s., 1 (1850–53): 223–25.

[63] W. S. W. Ruschenberger, "A Sketch of the Life of Thomas Stewardson, M.D.," *Trans.,* 3rd ser., 7 (1884): xxix–xlviii.

[64] James V. Ingham, "Memoir of John S. Parry, M.D.," *Trans.,* 3rd ser., 2 (1876): xlv–lv.

[65] Andrew Nebinger, "Benjamin Janney," Medical Society of the State of Pennsylvania, *Transactions,* 2nd ser., 5 (1860): 145–148.

[66] [Henry Bond], "Biographical Notice of the late Dr. John Ruan," *Summary,* 1 (1841–46): 326–29.

a reader and amanuensis. "Neither the dissipations of Paris, nor the gayeties of light-hearted Vienna," it was said of Moreton Stillé, "could often wean him from the quiet of his chamber by night, or withdraw him from the duties of the hospital or the class-room by day." They had no idea that they could or should rest. Until within a few years of his death in 1850 Joseph Hartshorne "never left the city for pleasure or rest," and John Ashhurst, Jr.,[67] who died in 1900, for more than forty years never took a holiday of any length. It was no wonder that they ruined their health. Weir Mitchell was to teach them and others to conduct themselves differently.

Only a few appreciated the value of fresh air for either themselves or their patients. Joseph Parrish was one, prescribing fresh air and exercise for patients, and taking both for himself as well: in winter he skated on the Delaware and Schuylkill Rivers and local ponds. Robley Dunglison liked to slip away to fish, and Theophilus Beesley, too, was an ardent fisherman. Some others had avocations that took them out of doors. William P. C. Barton[68] led his students on botanizing walks along the Schuylkill to Bartram's Garden, "skipping merrily, like a humming-bird," Samuel Gross recalled. William Brincklé had an orchard and harvested apples; while John Hamilton Slack resigned the librarianship of the College of Physicians of Philadelphia and gave up his Philadelphia practice to conduct a fish hatchery at "Troutdale," his New Jersey farm. All these activities must have been health-sustaining for the few who pursued them.

Books, however, appealed to more physicians than out-of-doors avocations. Literature, as one might expect of persons with a broad classical training, was the delight and solace of many doctors. As a young man Nathaniel Chapman contributed to *The Port Folio* and edited a volume of British oratory. The surgeon William Gibson could quote page after page of his favorite Latin authors—Ovid, Horace, and Virgil. Reynell Coates, who after a series of personal tragedies gave up practice for writing, was said to have been able to recite English poetry from morning till night, and Squire Littell could do the same, if not for such long periods. John K. Mitchell wrote a volume of poetry while waiting for patients, and Littell composed hymns. Jacob DaCosta was an active member of Philadelphia's Shakespeare Society. Samuel Lewis assembled a col-

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[67] Richard H. Harte, "Memoir of John Ashhurst, Jr., M.D.," *Trans.*, 3rd ser., 24 (1902): xlviii–lv.

[68] Samuel D. Gross, *An Address delivered before the Alumni Association of the Jefferson Medical College . . . March 11, 1871* (Philadelphia: Collins, 1871), pp. 17–18.

lection of 10,000 volumes, which he gave to the College of Physicians over a 30-year period; while the library of John Redman Coxe[69] contained 15,000 volumes when it was dispersed at public auction in 1864.

History, especially the history of their profession, engaged many of the literary-minded doctors, and some made pioneering contributions to it. Joseph Carson[70] collected books and autographs of medical and scientific men and wrote a general history of the Medical Department of the University of Pennsylvania. W. Kent Gilbert[71] was one of the earliest collectors of Americana in this country, amassing books, manuscripts, furniture, and other artifacts of both medical and general significance. Caspar Morris wrote a short history of medicine in Pennsylvania for the Historical Society of Pennsylvania in 1826,[72] and George W. Norris wrote a longer account of the medical history of early Philadelphia, based on original letters and documents in his possession and those belonging to friends and relatives.[73] Medicine, however, was but one of the fields to which the doctors' historical interests led them. Joseph Carson's first publication was on Egyptian mummies;[74] George Bacon Wood wrote on India and Indian religions;[75] and James Aitken Meigs,[76] who had a keen interest in anthropology, projected a "History of the Intellectual and Moral Status of Woman as compared with that of Man." Each of these authors and potential authors must have been, like Rene La Roche,[77] author of a definitive work on yellow fever, happiest when in his library, "up to his elbows in his manuscripts."

Music and art seem to have had fewer devotees among the old

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[69] Cato, "Sketches of Eminent Living Physicians. No. XII. J. Redman Coxe," *Boston Medical and Surgical Journal,* 41 (1850): 156–59.

[70] James Darrach, "Memoir of Joseph Carson, M.D.," *Trans.*, 3rd ser., 4 (1879): xlv–lxvii.

[71] Joseph M. Toner, "W. Kent Gilbert," American Medical Association, *Transactions,* 32 (1881): 503–504; and John W. Croskey, *History of Blockley: A History of the Pennsylvania General Hospital from its Inception, 1731–1928* (Philadelphia: Davis, 1929), p. 292.

[72] Caspar Morris, "Contributions to the Medical History of Pennsylvania," Historical Society of Pennsylvania, *Memoirs,* 1 (1826): 337–50.

[73] George W. Norris, *Early History of Medicine in Philadelphia* (Philadelphia, 1886).

[74] Joseph Carson, "Egyptian Mummies," *American Quarterly Review* 18 (1835): 170–190.

[75] George B. Wood, "History of Christianity in India," *Historical & Biographical Memoirs, Essays, Addresses* (Philadelphia: J.B. Lippincott, 1872).

[76] Henry C. Chapman, "Memoir of James Aitken Meigs, M.D.," *Trans.*, 3rd ser., 5 (1881): cxvii–cxxxiii; and Gross, *Autobiography,* 2, pp. 410–13.

[77] Gross, *Autobiography*, 2, pp. 374–77.

doctors, although, of course, there were exceptions. Francis West Lewis, a founder and later president of the managers of Children's Hospital, collected paintings and Chinese porcelains, glass, and bronzes, which he bequeathed to the Pennsylvania Academy of the Fine Arts and the School of Industrial Art (now the Philadelphia Museum). W. P. C. Barton was "passionately" fond of music, as was Robley Dunglison, who was president of the Musical Fund Society; both men played the violin and flute.

Unlike doctors in other times and places, the Philadelphia physicians of the mid-nineteenth century seem not to have challenged or offended orthodox religion and the churches, or to have been charged by the clergy with rationalism, materialism, or infidelity. This was owing in part, no doubt, to the well-established liberalism and tolerance of the Quaker City, with its many sects and churches; but it was owing also to the genuine and visible religious convictions of the doctors.

Theophilus E. Beesley, a "convinced" Friend, "cheerful in his sobriety," was an overseer of a Friends meeting, and John Moore[78] gave up practice to have more time for his ministry among Friends. William Darrach was an elder of his Presbyterian church, and Squire Littell was vice-president of the Society for the Advancement of Christianity in Pennsylvania, member of a committee to prepare a new edition of the *Book of Common Prayer*, and editor of *Banner of the Cross*. William E. Horner was so impressed by the selfless courage of Roman Catholic nuns in the cholera epidemic of 1832 that he studied their religion, eventually joined the Roman Catholic church, and thereafter wrote frequently on theological subjects. More than this, many were called to action by their beliefs. Beesley, over 70 years of age at the end of the Civil War, took a wagon-load of goods to the South to distribute among the poor, white and black alike—practical things like good eye glasses, needles (2000 packets), thread, thimbles, drygoods of many sorts, as well as tools, building materials, and teaching supplies for a school he established in an empty building in Friendsville, Tennessee. Henry Hartshorne died in Tokyo on the second of two visits as a medical missionary to Japan. The same spirit might infuse a man's work at home: Hugh L. Hodge felt that teaching was a Christian calling; his students said that he might appropriately have begun each lecture with the words, "Let us pray."

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[78] J. Wilson Moore, "Biography of Dr. John Moore," Biographical Sketches and Memoirs of Members of the College of Physicians, pp. 23–31, CPP.

These men were often described by their younger contemporaries as "doctors of the old school." Of Nathaniel Chapman, who died in 1851, it was said that "in conversation, he is affable, polite, and the polished Virginia gentleman of the old school." John Bell, who died in 1872 at the age of 77, was "the associate and friend of the physicians of the old school, now gradually passing away." Isaac Hays,[79] longtime editor of the *American Journal of the Medical Sciences*, "in his manner . . . was emphatically a gentleman of the old school, bland, gentle and dignified." Samuel D. Gross in 1861 dedicated his *Lives of Eminent American Physicians and Surgeons* to Samuel Jackson (of Northumberland) and John W. Francis of New York, "representative physicians of an age now rapidly passing away"—in other words, doctors of the old school. From such characterizations, illustrations, and definitions, and from what we know or can infer of the nineteenth-century Philadelphia doctors, we can perhaps recognize doctors of the old school.

Unlike their eighteenth-century predecessors with their snuff-boxes and gold-headed canes, they affected no obvious symbol of their profession. However, they almost always wore black, except Samuel Jackson, who was said to have "dressed in anything, scarcely ever in sober black." A carriage was something else—evidence of the size and character of the doctor's practice, a measure of his acceptance and prosperity; and a carriage is mentioned in many obituary notices. A few men, of course, refused to give up visiting patients on foot: if a man rode in a one-horse carriage, it was D. Francis Condie's contemptuous judgment, he was physically deficient; if in a two-horse carriage, he was mentally deficient. But Condie's was a minority view. When, after fifteen years, Hugh L. Hodge could at last afford a carriage, it was "a noble vehicle drawn by fat, sleek, cream-colored horses." Philip Syng Physick went about in a small carriage drawn by two black horses; John K. Mitchell in one drawn by two beautiful sorrel horses. Samuel G. Morton's carriage was drawn by one gray horse, Samuel Jackson's by two black ones. George Bacon Wood, probably the wealthiest physician in the city at mid-century, often traveled in a large carriage with a coachman and outriders before and behind. His nephew, on an occasion when they were some distance from their

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[79] Alfred Stillé, "Memoir of Isaac Hays, M.D.," *Trans.*, 3rd ser., 5 (1881): lxxvii–cx; and Gross, *Autobiography*, 2, pp. 399–401.

[80] Horatio C. Wood, "Reminiscences of an American Pioneer in Experimental Medicine," *Trans.*, 3rd ser., 42 (1920): 201–02.

house, suggested that he and his uncle take a public cab. "When I ride," came the reply, "I ride in my own carriage."[80]

Physicians most likely to be described as "of the old school" were mostly general practitioners (there were hardly any specialists then, although a few were known as skillful surgeons), whose workplace was their patients' sickroom. Although not unacquainted with current literature and new discoveries, they trusted their own experience and common sense. Observant, often skeptical, they saw no reason to give up something that worked perfectly well for something new that might be no better. "Gentlemen," Joseph Pancoast[81] used to tell his classes, "I cannot tell you why it is, but when I wash a wound with bichloride of mercury, it heals by first intention."

Cautious, careful, conservative, and safe—these and similar words in memoir after memoir described Philadelphia physicians and surgeons of the mid-nineteenth century. Theophilus Beesley was "circumspect and slow" rather than "intuitive and precipitate"; John C. Otto was "more solid than brilliant"; Robert P. Thomas,[82] "without unusual brilliancy . . . was versatile . . . conscientious . . . persistent and methodical"; Henry Bond was "unimaginative, even to a fault." Like the old societies and institutions to which they belonged, many, perhaps most, of the doctors were conservative, and proud of it. Resistance to anesthesia in Philadelphia was notorious; the initial reaction of one medical editor to reports from the Massachusetts General Hospital in 1846 was that it was quackery, another Yankee trick, like Connecticut's wooden nutmegs. John Ashhurst, Jr. was so famously unaccepting of "Listerism" that when he was elected to the surgical staff of the Pennsylvania Hospital in 1887 (twenty years after Lister published his results) newspaper reporters asked if he intended to employ antiseptic procedures, as the Managers had directed. He replied that he would consider it.[83]

These "doctors of the old school" cherished the idea that the practice of medicine was a high calling—that they had a special obligation to all the sick, especially the sick poor. Caspar Wistar Pennock, according to his friend and fellow-researcher William Wood Gerhard, "cultivated [medicine] from the purest feelings of love, and not with the desire of pecuniary profit." In this spirit

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[81] *Medical Register* (Philadelphia), 1 (1882): 23; and *BMSJ* 106 (1882): 260.

[82] Henry Hartshorne, "Memoir of Robert P. Thomas, M.D.," *Summary,* n.s., 4 (1863–74): 159–62.

[83] *Medical Register,* 1 (1887): 499; and unidentified newspaper clippings, 7 May 1887, in Scrap books, CPP.

Caspar Morris established himself at Broad and Chestnut Streets—then on a remote edge of the city—so that the poor in that vicinity might have easy access to medical care. Such uncompensated services to the poor, Isaac Parrish told his colleagues in the County Medical Society in 1852, was "a part of the physician's duty as a member of an educated and beneficent profession; and upon his faithful performance of them, depend his own peace of mind and the preservation of the character of the body to which he has voluntarily attached himself."

Of many of the men mentioned here and of their contemporaries in neighboring towns and countryside (neither teachers, authors, or discoverers, but only "laborious" doctors) one may say, as was said by the memorialist of Thomas Yardley who died in 1860, that they were

> more substantial and useful, than specious and brilliant, . . . men of sound sense, patient industry, and high-toned principle, who form[ed] at once the delight of the social circle, and contribute[d] largely to the public weal . . . Who, indeed, can estimate the good which accrues to the State from having in almost every village and neighborhood one or more educated men, trained with especial reference to the relief of the sick, persevering in their mission of mercy through toil and discouragement, by night and by day, braving exposure to contagion and weather, submitting to every privation, enduring every fatigue, and daily exerting all their faculties for the benefit of their fellow-men; and this, too, always with inadequate, and often with no remuneration. Persons like these, however, whatever may be their walk in life, are not ordinarily those who win the applause of mankind.

To physicians and patients alike at the end of the twentieth century, this encomium must seem uncritical, ill-balanced, absurdly idealized, and as unrealistic as one of Ian Maclaren's romantic Victorian tales. But to many in the middle of the nineteenth century it came close to expressing a substantial part of the truth about many of the Philadelphia doctors of a then-vanishing, now vanished, old school.

418 SOUTH 21ST STREET
PHILADELPHIA, PA 19146

Remarks to Incoming Fellows, Presented at the College of Physicians of Philadelphia, 22 June 1995

John L. McClenahan

Friends, family, and guests, I ask you to lift your glasses and join me in a salute to the Fellows joining our cohort tonight. May the years perpetually add to their pleasure in membership.

A Virginian by adoption, I return to these premises with sentiments that must have moved Thomas Jefferson after his long ride from Monticello—the prospect of convivial friends at the end of the road, keen minds for discourse and stimulating ideas. I tip my hat to Aesculepius up there on the landing. I bow to the ghosts of my teachers who dwell here—John Heysham Gibbon, Jr., Edward Bell Krumbhaar, Katherine Sturgis—and to others here in the flesh tonight whose company has cheered me for so many years.

Before ending our revels I would like to lay down a welcome mat for our new members and sketch a few particulars of the society that warms to their presence. There may even be time for a word or two of alarm for the scene outside.

Even at this late date some of you, newly arrived, may be wondering what sort of a place this is, what goes on here and whatever possessed you to join it. Are you going to get your money's worth? Perhaps there are some useful clues in our history.

Like so much else in this town, the College is a legacy of Benjamin Franklin—specifically of his Junto, a society where, over cider, members queried each other about the entire state of Creation. Question No. 9 of their catechism read: "Have you or any of your acquaintance been lately sick or wounded? If so, what remedies where used and what were their effects?" In time the Junto divided into daughter cells, two of which joined to form the College of Physicians of Philadelphia. The members, 24 in number, first met in January 1787.

Their stated mission, and ours, is too comprehensive to be cited after a full meal, but it comes down to this: in this place information will be collected and shared with a view to relieving human pain. The operative word is "information," whether drawn from our Li-

brary, the priceless artifacts of our Historical Services Division, the Katharine A. Shaw Public Services Division, or the Mütter Museum. These are housed in the halls around us, the gift of Andrew Carnegie in 1907. Adjoining us to the south, nursed by our Women's Committee, is an herb garden where mint and rosemary contend with the circumambient monoxide. In our auditoriums, clinical and research intelligence is disseminated and challenged by word of mouth faster than print can dry in a journal. We are, as they say, on-line, with computer access to a world of electronic archives through Medline and related databases. Our budget is $2.7 million, our books number approximately 370,000. We are governed by a Council of 27 members. Our sections are nine, and the same number of other societies use our facilities. A board of lay advisors—businessmen—stand by to advise us on how to manage money. So much for the tangibles and statistics.

But I have not really told you what the College is. If you see it as a warehouse for scholars you will not get your money's worth out of it. You will get very little that is *useful* beyond a few library references to plagiarize at your leisure. The College's real treasures are abstract, a little out of style now, and for that reason, increasingly precious. They come down to three things. First, to an attitude; a view of medicine as a gentle art. Second, to a venue where ideas can incubate and cross-pollinate. Finally, to a vantage point offering a wide view of all that heals. A poet called it "circumference." For this city's six vast medical centers, each getting vaster, this point of convergence is an *anticenter* where a neuroanatomist from the north can hobnob with an obstetrician from the south or a veterinarian from as far west as 39th Street.

And one thing more. Dr. S. Weir Mitchell—neurologist, novelist, president and benefactor of this society, for whom this hall is named—put it this way: "We are not merely physicians . . . meeting to hear and discuss facts and theories . . . [our] most important duty [is] that incessant watchfulness on all public interests in which questions of health are involved."

Incessant watchfulness. From the beginning this has been an observatory of medicine's performance and public expectations. Will any of you agree that the scene outdoors now is bleak? Sit with me for a moment while I pose Question 9 to today's Junto: "Have you or any of your acquaintance been lately sick, wounded, gouged, raped, decrepit and discovered yourself in need of medical care? If so, what remedies were used?"

To the maimed, these realities are familiar, the solutions elusive. Everywhere, in bold character and disguise, sickness and despair overflow the textbooks of pathology and multiply exponentially in our homes, nations and soul. Some of them we trace to our appetites—what we breathe, smoke, and eat. Others are new and cryptic: AIDS, mania, epidemic asthma. But for us, eclipsing these is a growing suspicion that the root causes for our plight are older than the steam engine. That they spring from seeds that poets and saints have been lamenting for centuries: the decline of kindness, the death of good. However archaic such a perception, some prophets see hope at last, a turning point that may in time bring us benefits as broad and redemptive as, say, magnetic resonance.

It's not the least of our ironies that everyone knows, from the Pope down, the passion that brought us to such an impasse. It is Greed. What *is* remarkable is that everywhere the truth is freely confessed and heralded by slogans: "Looking Out for Number One," "Keeping Up With the Joneses," "Maintaining our Lifestyle." We say, "If only everyone would stop being so *greedy!*"

So, from Dr. Mitchell's observatory, let's count the ways of "Wanting It All Right Now." How have they affected our work? How did the medical profession become the Health Care Industry?

For reasons, some say, to atone for earlier prodigality, the principles of merchandising are being applied to the mission of healing. These include honed competition, financial incentives, leveraged mergers—a polite term for monopoly—and economy achieved through rigorous efficiency. "Efficiency" is our current mantra. The American Board of Clinical Efficiency is hard upon us. The drift has evoked groans from cynics, of whom we have too many, and little dissent from skeptics, of whom we have too few. Gilbert K. Chesterton took the long view 90 years ago. "When everything about a people," he wrote, "is for the time growing weak and ineffective it begins to talk about efficiency. So it is that when a man's body is a wreck he begins, for the first time, to talk about health. . . "

In 1787, Philadelphia doctors and charitably inclined businessmen were in as hot pursuit of solvency as ours are today, but their approach was different. Theirs was not through relentless efficiency but through devout prudence. Item: tin collection boxes hung in the homes of every Manager of the Pennsylvania Hospital, and a promissory note was demanded for the value of every book taken from its medical library. Nothing was just thrown away. To them, the only thing disposable was waste itself. Their tin boxes have given way to

diagnostic overselling and ostentatious scientism—gleaming machines, endless tests, liability dodges, television on every wall.

Doctors have taken a surprisingly docile stand in the crusade for efficiency. We hear isolated outcries but few complaints about its critical erosions, perhaps irreversible, of two of our oldest medical assumptions. Most of us were taught from our first year in medical school that doctors were a part of treatment. That recovery flows from healer to sufferer. The medicine man had to be *there*. Lately, as his craft becomes an industry, his role diminishes. Other things, more important, become part of treatment. The computer is now the most important part of all. Insurance is part of treatment. Lawyers, administrators, fund raisers, architects, calendars, and statistics—all part of treatment now. But where is Dr. Smith? With these intrusions has come a steely rigidity. Calculated therapy runs one way, capable of no more exceptions than an algebra equation.

Another assumption, gospel for centuries, held that illness and injury attack the whole person. This is no longer accepted. We have witnessed a stunning fragmentation of persons and policy. To satisfy the computer, everything has turned into numbers. A body is nothing more than the sum of its fractions. Management comes in pieces. In today's manuals, doctors are numbered. Mine is B-09131. Procedures are numbers, relief is numbered, as in this recent three-o'clock-in-the-morning exchange:

> Nurse: Did you ring?
>
> Patient: I'm having quite a lot of pain; may I have something for it?
>
> Nurse: No, not for forty minutes.

Recovery is precisely timed: on the third day you go home. Complaints are specified to the second decimal place. Approaching the lectern this evening I experienced a mild attack of 799.1: Nervousness.

How are we to evaluate our new successes? Clearly, streamlining and simplification have brought rewards to finance and administration. This year in California a Blue Shield plan of California made a $4.5 *billion* dollar offer to take over a local health network. Six years ago a Philadelphia hospital reported a new income from operations (i.e., a profit) of 16 million dollars. A professor of health administration writes: "the findings (suggest) that the market model represents an important strategic form that may have important implications for the restructuring of hospital markets." The news isn't all bad on the management side.

But how happy are doctors? Many are getting out. How do patients value the care they're given? I have looked in vain for exit polls from clinics. High technology has raised high expectations. There is always one more definitive test. Tentatively alive, determined to resist salubrity, we no longer enjoy good health. We enjoy good reports.

Many of us are waiting to see how wholeness (health) can come from splinters and lingering pessimism. Our pace is so fast! There is so little time to ponder the cost in dollars and morale of the revolution going on. There are few retreats where it can be viewed with Oslerian equanimity and Carnegian determination.

This place is as good a one as any. If you choose to do so you can examine, judge, and resist here. Our Library stacks are crowded with allies: Sir Thomas Browne, Moses ben Maimonides, Baron Larrey, Claude Bernard, and Hans Zinsser. So are our walls, displaying portraits of Benjamin Rush, T. Grier Miller, Thomas Bond and John Chalmers DaCosta. They are wise companions, all of them, and their counsel is yours for the asking.

I hope you'll do so, and consider yourselves ever welcome.

4703 POCOHONTAS AVE.
RICHMOND, VA 23626

Contributors to this Issue

WHITFIELD J. BELL, JR., PH.D., has been a Fellow of the College since 1967. He is currently the chairman of the Samuel Lewis Circle, and is one of its founding members. He authored *The College of Physicians of Philadelphia: A Bicentennial History* (1987).

JENNIFER L. GUNN, M.A., is a doctoral candidate in the History and Sociology of Science at the University of Pennsylvania. In the course of her studies she has received two Resident Research Fellowships from the Francis C. Wood Institute for the History of Medicine.

THOMAS A. HORROCKS, M.A., M.L.S., is Director of the Francis C. Wood Institute for the History of Medicine and Director of the Library for Historical Services of the College of Physicians of Philadelphia. He is currently pursuing a Ph.D. in History at the University of Pennsylvania.

HAROLD D. LANGLEY, PH.D., is Curator of Naval History, Armed Forces' Collections, National Museum of American History, Smithsonian Institution.

DAVID MCCARTER, M.A., is a doctoral candidate in History at the University of Iowa. He has been a recipient of a resident research fellowship from the Francis C. Wood Institute for the History of Medicine.

JOHN L. MCCLENAHAN, M.D., has been a Fellow of the College since 1958. He has served the College as Secretary and as Editor of *Transactions & Studies*.

JEFFREY A. MULLINS, M.A., is a doctoral candidate in the History of Medicine at the Johns Hopkins University. He has been a recipient of a Resident Research Fellowship from the Francis C. Wood Institute for the History of Medicine.

FREDERICK MURTAGH, M.D., is President of the College of Physicians and retired professor of neurology at the Hospital of the University of Pennsylvania. He has been a Fellow since 1955, and has served on numerous committees, including the Committee on Fellowship and the Committee on Development.

BENJAMIN R. PIERCE is Interim Executive Director and Director of Finance and Accounting of the College of Physicians of Philadelphia.

GRETCHEN WORDEN is Associate Director of the Francis C. Wood Institute for the History of Medicine and Director of the Mütter Museum of the College of Physicians of Philadelphia.

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